

# SUPPLEMENT.

## The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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LONDON, SATURDAY, DECEMBER 6, 1879.

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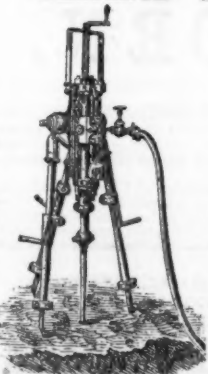
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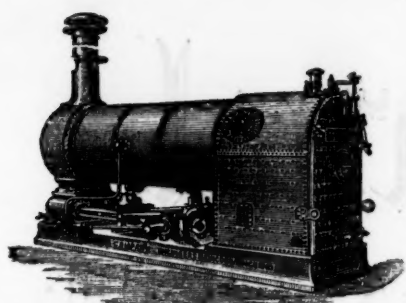


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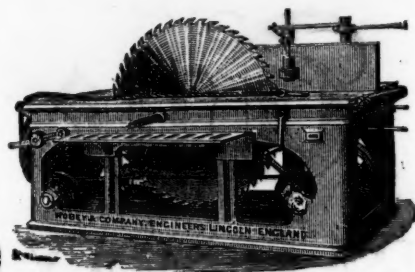
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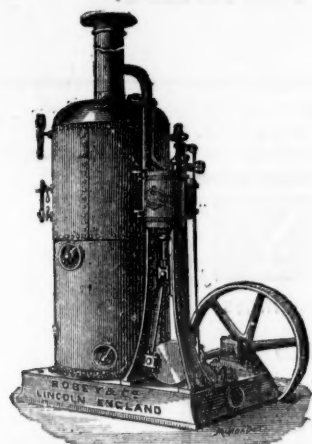
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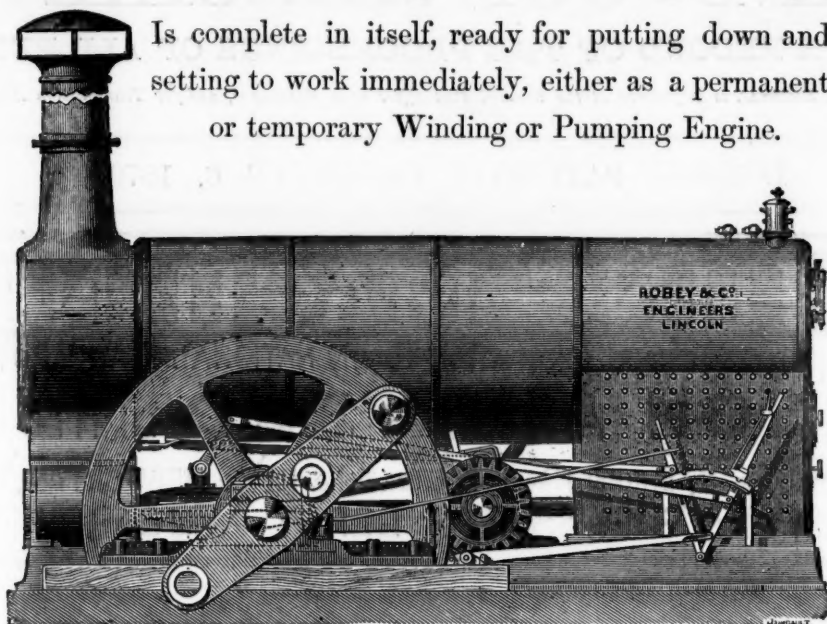
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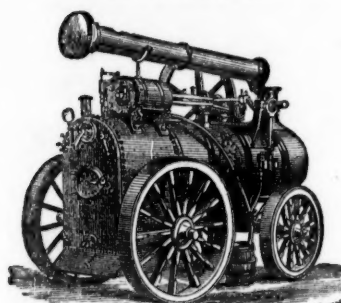
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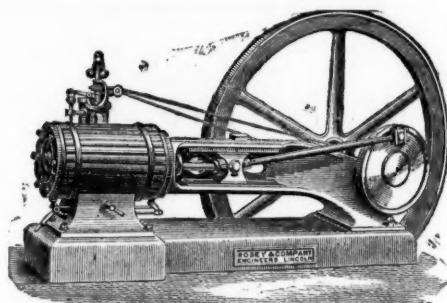
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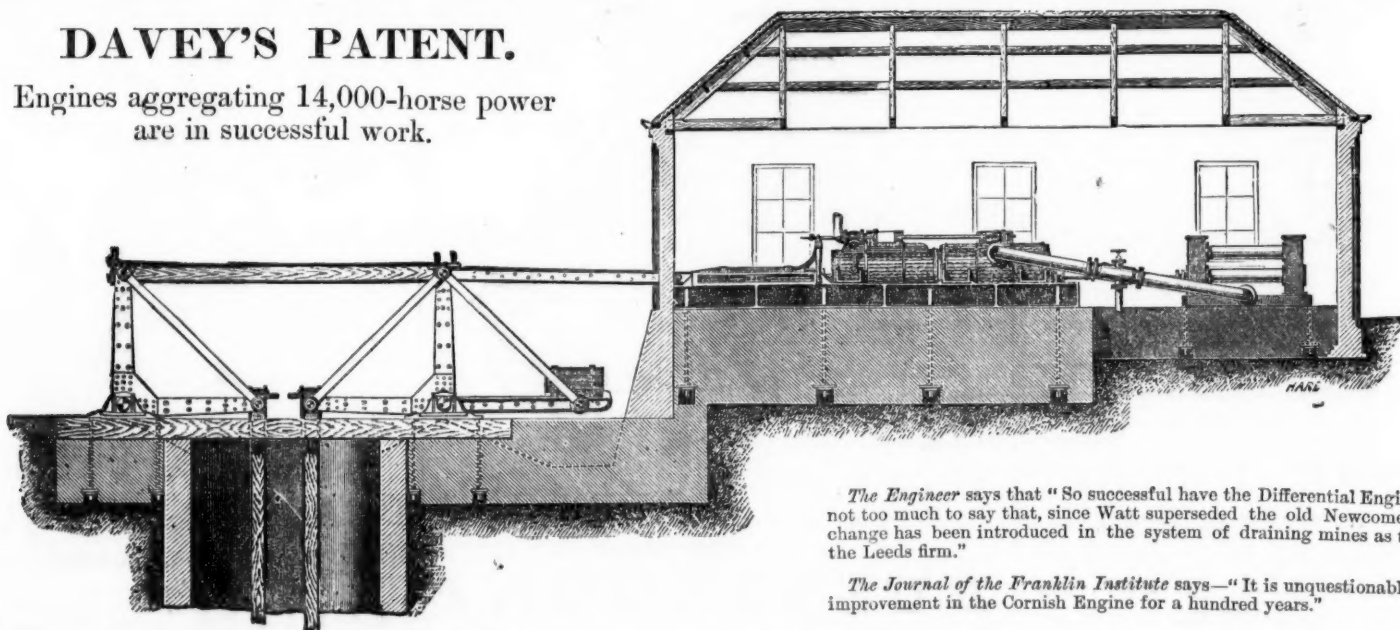
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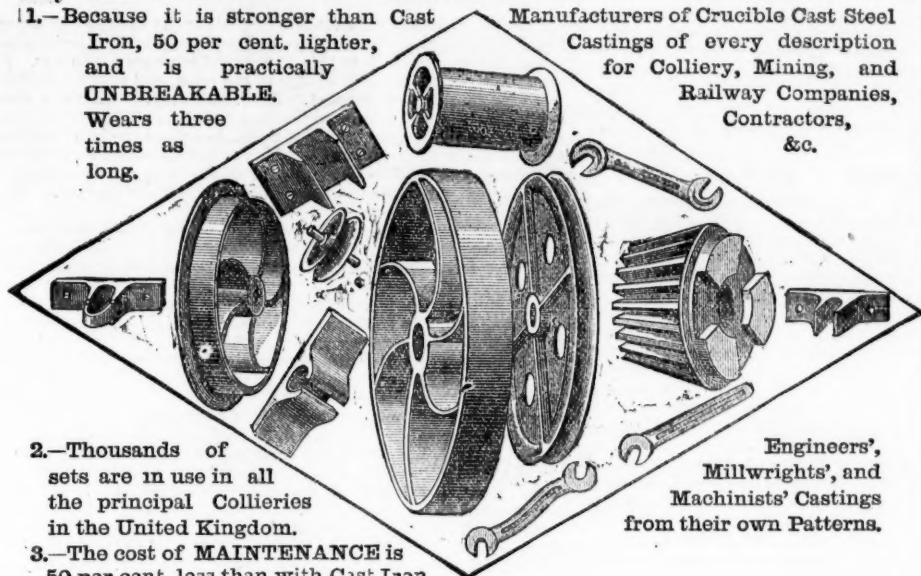
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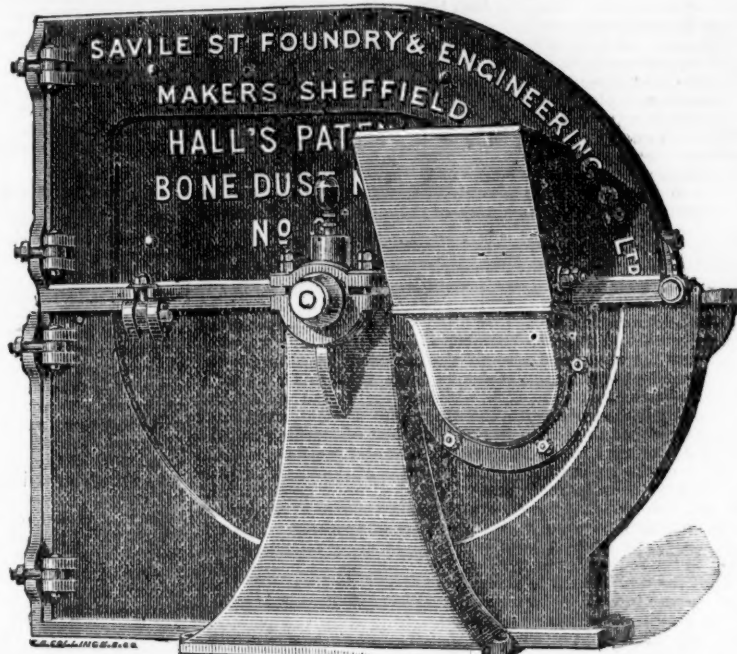
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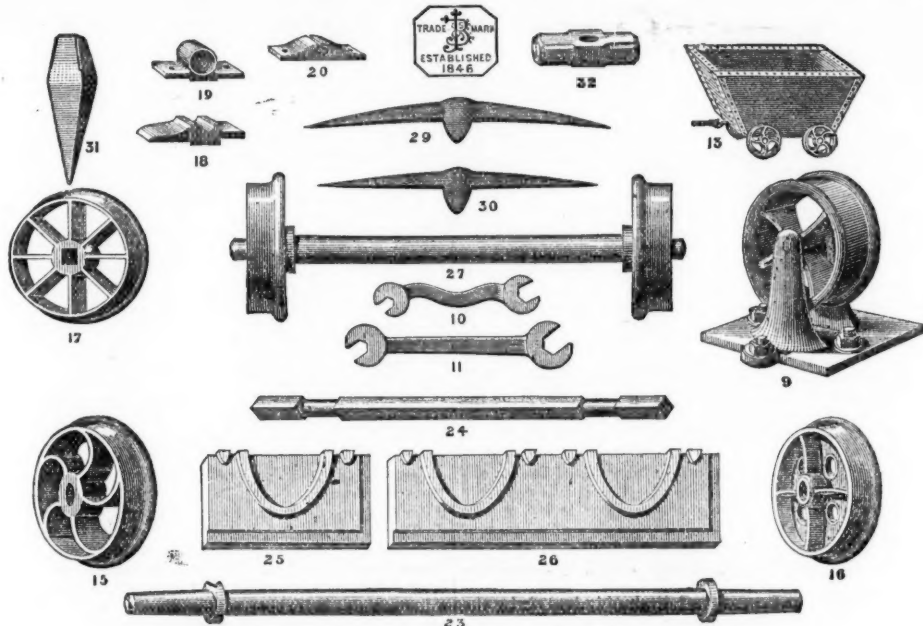
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## Original Correspondence.

## ON COAL WASHING.

SIR.—What is called "coal washing" is the separation to a greater or less extent of the impurities from the coal as it is drawn from the mine, the principle of the difference in specific gravity of minerals being applied in effecting this object. The impurities are generally of a greater specific gravity than the coal, iron pyrites—the most troublesome of the refuse materials—being much the heaviest. Then the fire-clays and shales of various degrees of specific gravity, some of the latter, perhaps, being as light as the coal itself. In this case the deleterious substances are difficult to separate, recourse being had in some instances to picking out the shale from the coal in a dry state, as it is carried on a traversing endless band to facilitate this operation. Certain coals are raised from the mine in a state sufficiently clear of refuse not to require any cleansing operation, such are some of those of the Brancepeth and other districts of Durham, while others are far different to these, requiring not only washing of a crude kind, but to be operated upon with machinery of the most approved form, so as to give satisfactory results.

The earliest attempt to separate impurities from coal as brought from the pit was made by the late Mr. Morrison, of Newcastle-on-Tyne, with a machine of Belgian invention. The crude coal in this machine was delivered upon a sieve or perforated plate, slightly inclined, and immersed in a chamber filled with water. By means of a plunger worked within the chamber a rising and falling motion was given to the water, and also to the materials placed upon the sieve. The effect of this motion was to cause the heavier material—the dross—to settle on the sieve, while the coal rested upon it and was gradually floated over with the water into a spout, and thence into wagons placed to receive it. This method of washing had the disadvantage of requiring a large supply of water for its operation. The water, moreover, carried with it a portion of the small coal, as much as 10 per cent. in some cases. This foul water contaminated the streams into which it flowed, and became a source of annoyance and in some cases litigation with the owners of property. This objection has to some extent been remedied by using settling ponds, into which the foul water first flows, depositing in its course some portion of the coal it held in suspension; the effluent water is then allowed to pass into the nearest stream. The coaly deposit obtained from the settling ponds is in some cases utilised for the manufacture of coke. It should be observed that the first of the deposit contains the largest proportion of impurities, that at the furthest end the least. The pure coal being nearest to the same specific gravity as water is always carried the greater distance.

The system of cleansing coal by inclined troughs the writer has seen at many collieries in Durham. Though less efficient than the machine last described they may be adopted where only a small quantity of coal is required to be cleaned, and where a sufficient supply of water is at command. The troughs may be 30 ft. or more in length, 18 in. in width, with an inclination of 1 in. or more to a yard. Stoppers are placed at intervals on the bottom of the trough; these intercept the shale or other refuse. The small coal is floated over them by a flow of water, which is turned on or off as required. Beside each stopper a valve is placed in the bottom of the trough, through which when opened the refuse which has accumulated is got rid of. Settling ponds may be made available for this system as in the former one described.

A more complete apparatus of this description has been erected at Ince Hall Colliery, in Lancashire. It consists of about 400 ft. length of inclined trough. At the highest point small coal from the screen is poured into it, and water as required. The first and longest portion of the trough is 10 in. wide and 10 in. high, with an inclination of 2 in. to a yard. The second portion is short, of the same dimensions, with a fall of 1½ in. to a yard. The third portion is 70 ft. in length, 23 in. wide, 10 in. high, with an inclination of 1½ in. to a yard. At about 300 feet below the head of the trough a valve is placed; when this is opened, the supply of coal suspended for awhile, all the refuse which had previously accumulated is swept down by a copious stream of water, and falls through the aperture into a wagon beneath. At other two points below this valve, stoppers are formed by placing loose pieces of wood in grooves at the sides one above the other as the dirt accumulates. These stoppers serve to intercept the small particles of dirt which had not been retained above the valve. About 120 tons of coal per day is cleaned by this apparatus; from this about 6 per cent. of refuse is obtained; about 80 gallons of water are used per minute. The arrangement is both simple and efficient. The separation of the dirt from the coal is much more complete than can be effected with using short troughs. The cost of erection of this coal washer is not great, the cost for attendance being moderate, and the carriage of coal for this considerable distance—from the screen to the coke ovens—may be reckoned as a part of the economy of the arrangement.

It is found that coal crushed between rolls, or pounded small by other means, previous to being cleaned produces coke of greater density and better quality than larger coal (this applies only to coal just drawn from the mine), and its better quality is the result of a more perfect separation of iron pyrites and other impurities from the coal than can be done when coal in large pieces is to be dealt with.

The machine made by Mr. Sheppard, of Bridgend, is an improvement on the "Morrison" machine, before mentioned. Previous to the coal being operated on in the machine of Mr. Sheppard it may be ground fine or not, as required. The distinguishing feature of the new and improved form of this machine is that the same water is used over again; the settling from the water is effected in a compartment of the machine—not in settling ponds, as was done in former arrangements, the water in the latter case being pumped from the ponds back to the machine to be used over again. In his new machine no foul water is discharged. A very small quantity of water suffices to make good the loss from what passes over with the coal and refuse, which is an important consideration in some localities. The fine coal is not carried off to settling ponds; the loss from this cause (from 7 to 10 per cent.) is avoided, but as the foul water is used over again the fine coal after a partial settling in the machine is eventually carried along with the larger pieces of coal. In this improved form there are only two outlets—one for the cleaned coal, and one for the refuse, the removal of each of which is effected by a worm-screw, from whence the coal and refuse respectively are raised by elevators to be delivered into trucks. A machine to clean 200 tons of coal per day of 10 hours requires an engine of 10-inch cylinder to work it; a man and boy will be all the attendance needed; the cost of all is stated by the maker to be 2d. per ton. Another feature of this machine is that if the coal is required to be separated by screening into three different sizes each separation is treated in a chamber by itself, and by this means a more perfect cleaning of each size of coal is effected.

## WATER-POWER FOR MINING PURPOSES—No. V.

SIR.—In my former communication I stated the water-rod is capable of three distinct motions—1. The reciprocating.—2. That of one direction only, in which one end dissolves.—3. That of the circular, in which the rod travels from one point and returns to the same point again. All the motions have one common pressure to overcome when one end is elevated above another before any effective power can be extracted from them. The amount of that pressure is in proportion to the difference of such elevation. Suppose one end of the rod should be 500 fms. distant from the moving power, and one point in it should be 25 fms. above the starting point, the pressure at the lower point would be about 50 lbs. per circular inch. Now, it is quite clear that this pressure alone forms a very formidable load to a piston of any considerable area; and whatever that load may be it has to be provided for and overcome, together with the friction of all motions connected, before any effective force can take place on the machinery intended to be driven by it. It, therefore, follows in cases where the altitude of the driven machines is considerably above the driving ones the pressure at the starting or driving engines is very great, and very strong and substantial castings are required, and pistons or poles adapted to high pressures. In the event of machinery on the summit of a hill requiring a pres-

sure of 40 lbs. per circular inch to drive it—which would be the upper end of the rod—and the machine working that rod being 25 fms. below it, representing 50 lbs. pressure more, both equal to 90 lbs., to which add 25 lbs. for friction, the pressure in the driving piston would be 115 lbs. per circular inch.

In the case of the reciprocating rod the keeping the same intact—that is, at its full volume—would require suitable appliances for the leakages that would more or less take place in connection with the pistons or poles would constantly affect their volume otherwise. In the second case, when the rod is driven in one direction and dissolved at one end, less attention to this matter would suffice. With respect to No. 3, or the circular rod, the above remarks about keeping it intact also apply here. The modes of doing it vary. The best methods of connecting machines to water-roads is a very important point in connection to the subject. One seems to claim prominence—that of a reservoir under the required pressure from which the machines draw their supplies as wanted.

GEORGE RICKARD.

## THE PRODUCTION OF METALS.

SIR.—The price of tin having advanced about 33 per cent. since the Banca sale in Holland in the spring of this year, the mines in Cornwall appear to have had the benefit as regards the price of stock—shares in mines. Lead ore will also feel the benefit of the turn in things. The greatest producing copper mines in Ireland, Cuba, Australia, as well as in Chili, after producing millions of wealth, are said to be greatly on the wane, and many of them quite exhausted as far as they can be wrought to advantage, except the price of copper is very much higher than present quotations. The very productive copper mines in the island of Cuba appear to be entirely exhausted at present, so are the mines in Canada, and the Burra Burra, Moonta, and other great mines in Australia, and unless some new mines are discovered the price of copper must be greatly enhanced, as the present stocks of that article must diminish rapidly.

The productive districts of copper, as well as tin, are not exhausted in Cornwall, as some may imagine. Mines will be found in all ages, but not, it is said, by all men. As regards the very old and at one time the very rich copper mines in Cornwall, they are now 600 and 700 yards deep from the surface, just as rich for tin as they were 30 or 40 years ago for copper, and the deeper some of them are wrought the richer they appear to be getting.

One extreme invariably produces another, and after seven years of the greatest depression in trade during the last half century a turn seems to be taken at last; for example, wool could scarcely be given away last year, and now finds a ready market at 40 per cent. advance, with an upward tendency to higher prices.

MINER.

Dec. 2.

## FLAGSTAFF SILVER MINING COMPANY.

SIR.—I notice that lately one of the periodical "market-revivals" in these paper shares has taken place. I say advisedly paper shares, inasmuch as the company has long since ceased to own any property whatever, and on these grounds alone is liable to be wound-up whenever anyone thinks it worth while to present a petition. It is quite needless to go into the merits of the 100 ft. of lode which the United States Supreme Court settled as the entire legal holding of the Flagstaff Mine, and which was sold by the sheriff over two years since, and the time for redemption expired six months thereafter. It is likewise unnecessary to go into the merits of the adjoining mines, the greater portion of which consist of the lode formerly claimed and worked by the Flagstaff Company as the "Flagstaff lode," for which trespass there is a verdict and judgment recorded against them for heavy damages. It suffices to say that the adjoining mineowners are quietly in possession of their properties, and not in the least likely to enter into arrangements for a sale to a company overwhelmed with debts unless, indeed, the shareholders are prepared to show their confidence in the direction by subscribing what is required to obtain an interest in these mines, which may be stated at the lowest as 35,000l. cash, apart from a contingent interest represented by shares. One of the owners of these mines was lately in London, and notwithstanding the sanguine rumours which have caused the shares to rise, not even a preliminary arrangement has been made with him or his co-owners for acquiring their interests either by the "in" or "out" parties of Flagstaff boards of direction, or by any other party. Why should it be supposed that adjoining mineowners will enter into any contract with, or exhibit any consideration for, a company which has trespassed upon and despoiled them for many years? Is it likely that they would be willing to enter into any preliminary contract without receiving a substantial cash deposit, and even if they did what guarantee is there that they would not have to pay 40s. for each l? It is not often that American mineowners are willing to sell good mines; and, although the Flagstaff lode produced profitable results at a certain depth, any willingness of the owners to sell at a moderate price may be fairly taken as an indication of the impoverished condition of the property.

Notwithstanding such facts as these, Flagstaff paper shares have risen from 1s. 3d. to 35s. per share, when the very existence of the company is forgotten in the district where they are once supposed to have owned large property, and are now said to be in treaty for the purchase of some without, however, having any means to pay a fraction of its own debts. Under circumstances such as these any person would suppose that the board of directors having the interests of the shareholders and their own character at stake would issue a circular denying the false rumours which are about, and it is devoutly to be hoped that on inspection of the share register it will not be found that the directors and their friends have taken advantage of the recent rise in the price of shares to reduce their holdings. This is a question which will, no doubt, be generally asked, by new shareholders especially.

The Flagstaff Silver Mining Company of Utah (Limited) is by the Limited Liability law liable to be wound-up at any moment in consequence of—1. Being without any property.—2. Having ceased to carry on business for over 12 months.—3. Its inability to pay its debts. And if the directors or some of their outside friends are desirous of retaining the Stock Exchange quotation in these paper shares as a medium of speculation they will do well to make a serious endeavour to get hold of a mining property of some kind before some philanthropist files a petition to wind them up in order to protect unwary speculators among the public, in ignorance of the real facts, being led away by false rumours and quotations. In regard to this the directors will, no doubt, be able to inform the public as to the manner in which they propose to dispose of another cause for winding them up—the unsatisfied judgment for about 2000l. of W. H. Greenhow, now on its way to England for collection, and this is only one out of many in a position to pursue a similar course.

The speculation in such shares is a public scandal, and should be brought under the notice of the committee, for assuming that it was true that attempts were being made to purchase some mining property, and that such attempts became successful, what possible value could it add to the paper shares, unless the shareholders are prepared to subscribe 50s. to 60s. per share cash to clear off—(1) their judgment debts in Utah—30,000l.; (2) their debenture debt; (3) the amount to be paid for the properties to be purchased. Beyond this there is the Erwin Davis claim of 70,000l., which may be considered as bad or doubtful in Utah, but which as to 10,000l. there is certainly a valid claim against the company in England, which would very soon be heard of if the company were ever likely to have any means of paying any portion of it. To sum up:—1. The company ceased to own any property whatever in Utah two years ago.—2. The company have made no arrangements to acquire any property since.—3. If they could make such arrangements they have no means of paying for any property.—4. The company is overwhelmed with debt to judgment creditors and debenture holders. Therefore, the shares have no intrinsic value beyond the paper they are printed on, the quotations and dealings in them are simply brought about by unfounded rumours and fallacious hopes which favour speculation in the shares for the purpose of transferring money from the hands of the public into the pockets of a "ring," who are endeavouring to put off worthless shares upon those unacquainted with facts. These ("ring") shares have probably been collected at a few shillings per share, and will again become equally almost valueless to the legiti-

mate speculator when the "ring" have pocketed the profit they started in to make. In the interests of mining I commend this communication to all legitimate mining speculators among the public.

A WORD TO THE WISE IS SUFFICIENT.

## FLAGSTAFF SILVER MINING COMPANY.

SIR.—I beg to enclose you a letter which I have received from the former manager of this company, and which may be interesting to many of your readers.

A. P.

SIR.—In reply to your enquiries respecting the Flagstaff lode perhaps a brief *resumé* of the history of the mine since I became acquainted with it may be at this moment of some service to you. In the summer of 1872 I took charge of the mine, and found it in debt to a very considerable amount. Mr. J. Nelson H. Patrick was then in charge. My first act was to pledge my own securities to obtain an advance for the company of about 2000l., in order to relieve their immediate necessities. Before the winter season came on the operations of mining and smelting had paid off all the debts of the company, and enabled me to remit a sum of about 44,000l. to London. (The shareholders have never received one penny from Utah since.) All would have gone well had I been allowed to close the smelting works and develop the mine during the winter months, but unfortunately the directors decided to keep the furnaces going, and directed me to supply them with ore, &c., "at any cost," and I followed out their cabled and written instructions, though contrary to my advice and remonstrance. The 1873 season opened; Capt. Forbes was sent out to take the chief management. Smelting the ore, which had produced such good results during the previous summer, was abandoned, and selling ore was commenced. Large quantities of ore were sold during Capt. Forbes' administration, and when he left Utah the company was indebted only to the extent of the claim which he made upon them for salary, &c. Mr. J. N. H. Patrick was at this time in London, and having gained the confidence of Mr. Erwin Davis, and that of the board, secured his appointment of superintendent in my place. Had this calamity not occurred regular dividends would have been resumed in February, 1874.

The united abilities of the Patrick family, consisting of the legal talents of J. N. H. Patrick, the military genius of Colonel Matthew Patrick, and, say, the muscular genius of A. S. Patrick, were now exerted to work the mine in a "miner-like manner," "forward monthly accounts," &c. The Colonel immediately on taking charge cabled to London that the mine was in "good shape, with plenty of ore," &c. He might well say so, for when I took possession I found about 6000 tons in reserve. During my own and the Forbes arrangement some 30,000 tons were extracted, and when I left there were 20,000 tons in reserve. But notwithstanding the praiseworthy efforts of the various managements since that time not one shilling of the proceeds have ever been received either by the company or, it is presumed, by Mr. Erwin Davis, who by his proceedings in Utah still claimed his original amount against the company. On the contrary, the Flagstaff Company has become deeply involved in debt in addition to having irrevocably lost every portion of their property, and if they want to repurchase it they will have to pay very dearly for it, assuming that they can induce the present owners to sell to them, which is more than doubtful.

Now, as to enquiries respecting the late rise in the price of the shares, there appear to have been two methods of making money out of the Flagstaff Company, the one was by the easy and certain way of obtaining possession of the mine and stealing the proceeds of the ore, and the other by the more ingenious but not less certain method of getting up reports and rigging the market. One day it was reported that Mr. Davis was settled with and all was to go on smoothly, and the shares would run up 3l. Another day the company was reported to have gained possession of the mine without settling with Mr. Davis, and a further rise took place. Then we heard that Hunter and others had handed the mine over to somebody else, after getting all the ore they could out of it for themselves, and down go the shares again. And now, after a lapse of years, an indication of life again appears in the report that the Professor is supposed to have some arrangement in view to buy back the mine. I have no wish to call into question his powers as a negotiator, but I do not for one moment believe that the shareholders will be foolish enough to subscribe new capital to pay off their enormous debts and to buy properties which they can only get on very onerous terms, if at all.

NICHOLAS M. MAXWELL

Queen Victoria-street, London, Dec. 2.

## IMMENSE INCREASE OF REVENUE TO RUSSIA—HYPER-REHABILITATION OF FINANCIAL RESOURCES

SIR.—My correspondence in the Journal of Nov. 22 and 29 has bridged over "le premier pas qui coûte," and brought me face to face with the Testament of Czar Peter the Great, which—whether viewed as apocryphal or genuine—is, to all intents and purposes, a consummate masterpiece of commercial policy, the utter disregard, or, in more modulated terms the non-fulfilment, of which I shall prove has been the cause of immense and continuous loss to Russia, its accomplishment being indisputably destined to diffuse incalculable blessing over the entire extent of the gigantic and accumulative portion of the globe under the sway of his Imperial Majesty. An excerpt of the manifesto of his Majesty the Emperor Alexander II., from the Journal de St. Petersburg, March 3, 1855, is as follows:—"Par la grace de Dieu. Nous, Alexandre II., Empereur et Autocrate de Toutes les Russies, Roi de Pologne, &c. Fasse la Providence que par nous s'accomplissent les vœux, et les desirs de nos illustres predecesseurs Pierre, &c., d'impérissable memoire." The testament of Czar Peter the Great states—"Article 7. We must export wood and other articles in exchange for England's gold, and establish permanent relations between her merchants and our own." Such has not been actually acted upon, but literally regarded as "nul, et non avenue," as, in lieu of the indigenous merchant, landowner, manufacturer, or producer shipping his produce to Great Britain, through the medium or under the aegis of a special department of the Ministry of Finance, which would render him every financial facility, and provide for its proper disposal in the various markets of Great Britain, the State acquiring thus an enormous amount of specie for the net proceeds. The rule has been and still obtains to sell to the English, German, or Greek merchants temporarily domiciled in Russia, who purchase with paper currency, which the demoralised state of exchange—of which I shall treat in the sequel of this correspondence—gives him an immense advantage to the equal awful loss of the native producer and the empire generally, whereas by following up the letter and spirit of said testament the influx of self-acquired gold would be immense. No "externe" or foreign gold or equivalent now enters into the Empire, except at an immense premium, which re-acts with a vengeance upon the well-being of commerce and the Empire generally.

In perfect consonance with Czar Peter the Great's Testament I am prepared to submit a practical plan for all the exports from Russia passing direct from the indigenous producer, &c., as precited, to the British market and by Russian vessels, thus retaining a vast amount of specie passed away to British shipowners. Russian finance is a complete prey to foreign "agiotage," and I am further in a position to demonstrate that the system resorted to of having recourse to the intermediary or speculative temporary alien sojourner in Russia can be superseded without in the least title infringing existing or implied treaties. The result will throw into the Imperial exchequer an annual vast amount in gold, whereas if matters be allowed to be carried on as hitherto Russia must remain in perfect financial thralldom. Carry out my practical enunciation *modus operandi*, and you will witness a rebound in all Russian securities on foreign stock exchanges. The very fact of my proposal being submitted to a purely MUSCOVITE inquiry will effect such, as it can be proved, by the means now proposed, that Russian securities will be intrinsically as secure an investment as Bank stock, and giving a much higher rate of interest. To enter upon a full development of my plan would be premature on my part, as wanting in respect to higher powers. I dare not for to-day infringe upon your valuable space, but with your permission I would respectfully submit, in the idiom of diplomacy,



for the serious consideration of "La Diplomatie et la Haute Finance" the following:—

"La vieillesse morale d'une nation c'est l'affaiblissement de la Foi, sa caducité c'est la perte de la Foi s'enfonçant chaque jour de plus en plus dans tout ce qui tue les nations, l'incroyance, le matérialisme, le luxe, l'agiotage, le sensualisme, on connaît le mot célèbre de Napoléon I.—"Dans cinquante ans l'Europe sera République ou cosaque." Pendant que les nations de l'ancien monde se livraient, tranquillement à leurs iniquités, la Providence outragée préparait, dans le silence de ses conseils, la verge vengeresse qui devait les châtier. Contre les Assyriens elle préparait les Medes et Perses, contre les Medes et Perses, les Grecs contre les Grecs et contre tout le monde livré au culte des idoles les Romains contre les Romains une invasion irrésistible." "Video virgam vigilantem, et ollam succensam a facie aquilonis." WM. JOSEPH THOMPSON.

Little Tower-street, Dec. 2.

#### THE CAPE COPPER COMPANY.

SIR,—What the approaching quarterly dividend in this company may be it is not difficult to foresee. In 1878 the company divided 37. 5s. per share on an average price obtained of 11s. 2d. per unit. The average is now 13s. 3d., or 2s. more per unit. This represents (if maintained for the twelve months) 40,000l. additional profit, or 24. per share more, sinking altogether the ever increasing output. I see, too, that the company is bringing forward some of its "refuse" ores of 9 to 11 per cent.—ores which in other mines would be considered very rich. Hitherto only 30 per cent. ores have been sent to market. This seems a step in the right direction, for there must be many thousands of tons of these refuse ores at Ookiep, on which all charges for raising have long been paid. If they fetch now, as they do at Swansea, 7l. or 8l. per ton it is evident that they must leave a handsome profit, as they cannot cost more than 4l. to 4l. 10l. to bring to market. These refuse ores are likely still further considerably to swell the profits of the current year. Those who have been scared by the late low dividends should evidently take heart again, and not throw away their holding in probably the best paying copper mines in the world.—Dec. 1.

W. W.

#### ECLIPSE ROCK-DRILL.

SIR,—In reply to Messrs. Hathorn and Co.'s letter in last week's Journal, the mine referred to is the Ohio Mine, Isle of Man. It will take something more than the insinuations of Messrs. H. and Co. and their myrmidons to injure the Darlington drill, whose merits are established on a firmer basis than the isolated testimony of interested parties, and all their spitefulness cannot belie statements that are capable of absolute verification.

J. BARKELL.

Rushin Mine, Dec. 2.

#### ROCK-BORING MACHINERY.

SIR,—On Nov. 18 it was incumbent on me to contradict through the Journal a statement made by Mr. Harry Teague, agent for Messrs. Henderson and Sons, Truro, to the effect that the Darlington drill had been entered for a competition trial with other drills at Wheal Agar. On the 27th ultimo this correspondent again asserted "that a notice of this drill with the others to work at the Wheal Agar trial had appeared in the circulars and large bills in connection with the Mining Institute Exhibition of the present year." Fortunately copies of the circulars and bills are in existence, and they enable me to give Mr. Harry Teague's statement a positive denial. These documents I enclose for your perusal and information. Other statements by Messrs. Teague and Willmott referring to the Darlington drill are so tainted with ignorance or prejudice as to be worthless either as a criticism on the merits of the machine, or as detailing particulars of the work which it may be made to accomplish.—London, Dec. 4.

JOHN DARLINGTON.

#### ROCK-DRILLS.

SIR,—My only reason for asking is Mr. Darlington interested in the Rushin Mine is that it is hardly fair Capt. Barkell's letters should so regularly appear written as though they were merely the unbiased tribute of an independent person, whilst at the same time I believe Mr. Darlington is really managing director of the mine, and one of his own clerks the secretary of the company. This being so (however honest Capt. Barkell may and I believe is), surely it is not too much to say that his persistent advocacy is interested and biased, even though he does not admit or, perhaps, even think so; and without impeaching Capt. Barkell, his managing director, or the board, "who would so very soon call him to account," &c., but one of whom seems almost as industrious in his advocacy as is Capt. Barkell, we may fairly presume that Mr. Darlington's drills have naturally received an amount of careful nursing which any other would as naturally be denied. "Human nature is human nature still." I have not been in the position Capt. Barkell is to note all the items of cost, &c., which he for his own satisfaction, and his managing director's personal benefit, so carefully compiles, having in the Talagoch case supplied the machine to compete with Mr. Darlington's, but had no supervision over the work. However, in the course of a few days I purpose giving a few facts and figures in reply to the questions put. I never saw Capt. John Barkell, and he makes a wholly incorrect statement when he says that I gave any such opinion respecting "surface arrangements at a certain mine."

P.S.—Who is Mr. Kimber? Why does he rush into such a violently abusive letter? If he will answer these two questions I promise to reply fully to him. For all I now know he may be the clerk to Mr. Darlington, and secretary to the Rushin Mine.

JOHN SHAW.

Liverpool, Dec. 3.

#### ROCK DRILLS.

SIR,—The correspondence by our friends, Messrs. Willmott and Teague, has greatly amused my comrades and myself, but we are puzzled to know what apostles have inspired those simple-minded fellows, and whether they have been watered by Paul of London or Appo of Truro. With Beaumont's drill more than double the work was performed in a month to that which has been accomplished in the same time by the Eclipse; Beaumont's drill must, therefore, be more than doubly better than the Eclipse. This statement Messrs. Willmott and Teague will, of course, not deny. It is ridiculous to notice the doublings and turnings in the language employed by our two Dromio friends, Messrs. Willmott and Teague, in defending the Eclipse. One week figures are used to imply that two and two added together make six; another week that they make three. These remarkable discoveries are expounded with a vehemence, want of logic, and passionate zeal worthy of our long-departed friend Billy Bray. In the sound and fury of their words, abatement and distortion of facts, as well as their absence of candour towards the merits of other drills, it is satisfactory to discern that their method of unwittingly rating the merits of a rock-drill makes the Beaumont, Darlington, and Barrow machines each distinctly better than the Eclipse.

Redruth, Dec. 1.

J. TREWON.

#### BWLCH UNITED MINES.

SIR,—The letter from "Lynx" in last week's Journal speaks well for the above property. It is no new feature in the prospects to be prepared for good returns of ore from the south lode alone, leaving on one side the important discovery at the 100 fm. level. According to the dialling the three known lodes will form a junction at or about the 120 fm. level—the Bwlch lode proper, the south lode, and the new or middle lode. The first formed a junction with the new lode at the 40 fm. level, and has yielded as much as 60 to 130 tons of ore monthly, and the south lode 50 tons. It may be as well to state here that the Bwlch lode proper is identical with that of the Goginan—in fact, one and the same. The courses of ore, as in this mine, will be found rich, compact, and settled at the 120. No such course as three lodes for productive power exists in the Goginan as in the Bwlch, and the public will in my opinion be startled ere long with the conviction that enormous profits will be secured by those interested in this undertaking. It is idle to enter into calculations, but to show what profits may be expected I will take only 50 tons per month, or 600 tons per year. The ore, on account of its richness in silver, has realised 20l. per ton. Take it at 17l., and allow 8l. per ton for costs of raising, dressing, &c.; minimum reduced

profit over 5000l. on a capital of 20,000l. The quantity of ore heretofore raised has been from hand labour, but with the use of rock-drills the ground should be opened out much more expeditiously. The dumps and halvans will give handsome returns. The blende contains silver, and should give 4l. per ton; there are hundreds of tons, and in former workings this was cast on one side. Your correspondent speaks of a reserve of 5000l.; but I am told it is the intention to create also a permanent one for the lasting benefit of the mine from the premium the shares must attain. This will add materially to the value of the shares, and give a standing income, the particulars of which I doubt not will in due time be fully explained in your valuable Journal.—Dec. 4.

VERITAS.

#### MANGANESE MINING.

SIR,—If any one interested in the mining of manganese would write a description of a good English mine, and the methods of mining employed, it would be acceptable to, among other readers of the Journal,—

AN ENQUIRER.

#### COPPER AND LEAD MINING IN WALES.

SIR,—I have noticed the remarks of your correspondent "H. S." in last week's Journal, and hope, with him, that the geological works he refers to will soon be forthcoming, and it is to be hoped at a price that will place them within the reach of all geological readers. I agree with some of the remarks of "H. S." respecting Llawr-y-Glyn, but I believe it is lead ore, and not copper ore, which will have to be looked for in the Llawr-y-Glyn neighbourhood. "H. S." states that at Nant-y-ricket, or, as it is now named, Great Gins, Mine copper ore assayed as high as 12 per cent. I beg to state for the information of "H. S." that copper ore has assayed as high as 34 per cent. from the Great Gins Mine, and that the branch of ore going down in the shaft so far as it has been sunk—to the depth of about 9 fathoms—is solid copper of a yellow and peacock colour, the said branch of copper being about 10 in. wide, while in the bottom of the shaft it is nearly 18 in. wide. This branch of copper has been driven upon in the adit level for more than 40 fms. long, and the copper found without interruption. Mr. Absalom Francis in his letter to the Journal says in reference to the fine discovery of copper ore at the Cambrian Mines that such a discovery has not been made for fifty years. I presume no one knows more about the district of which he writes than Mr. Absalom Francis, but if that gentleman would favour me with a call when he comes into this district next time I will show him an unremitted branch of copper for more than 40 fms. long in the bottom of the adit level, and of all the colours of the rainbow. However, it is much wider in some places than others, being 15 to 18 in. wide in some places, in others 6 or 8 in., while in others it is not more than 4 or 5 in. wide. I am not making these remarks with the view of detracting in the least from the grand discovery at Esgrair-fraith, for I have need rather to be proud of that discovery. Possibly it may be in the memory of some who may have taken the trouble to read my contributions to the columns of the *Mining Journal*, about a year and a half ago, that I particularly called attention to the capabilities of—or rather, I should say, to the great certainty of—large mineral deposits of different kinds being found in the districts of the Plynlimmon range—different kinds of mineral and out of the same lodes, according to the change in the surrounding stratification as the lode passes from one valley to another and from one hill into another. The phenomena thus change at different points, hence we find different minerals predominate at different points, and all the time the lode would or might be passing through the Upper Silurian, but it is the Upper Silurian under different conditions in different places.

The reading of geological books is very good and very necessary if the reader will strive to comprehend them as well as read them. There can be no doubt but that Sir Charles Lyell, Sir Henry de la Beche, and Sir Roderick Murchison were extensive readers of the geological works of almost every school of geology in their time, but they did more by thinking and by close scrutinising observation of all the countries and districts that came under their notice than by reading, and did not jump forthwith at certain conclusions merely because they had read some theoretical geological book or books upon the subject.

"A Miner" in his letter informs us that we are not to be surprised if a great copper discovery, even surpassing the lead discovery at the Van, should be made at Llawr-y-Glyn. Well, Mr. "Miner," with all due deference to your opinion, I for one certainly shall be very much surprised. Such a bold assertion puts me very much in mind of what Glyndwr is made to say—"I can call up spirits from the vasty deep." "So can I," replies Mortimer. "But will they come?" *Ergo*. Will the huge copper spirits come up from the vasty deep bowels of the earth at Llawr-y-Glyn at the call of "A Miner." I doubt it, or rather I have no doubt about it. That there is a probability of lead being found about Llawr-y-Glyn I believe. I was myself struck with the promising appearance of a very pretty lode on the Glan-yr-afon estate some years ago. Returning to Nant-y-ricket Mine, I beg to state for the information of "H. S." that the said mine will be worked before long by a company of private gentlemen of capital, and thoroughly developed, as it well deserves to be. Copper ore is now being raised from the surface of the lode that will assay about 12 to 14 per cent. On the same lode there is also the Ashford Mine, with only the River Severn intervening between the two properties. An adit level has been driven for a good distance on the course of the lode, with almost precisely the same results as at Nant-y-ricket—a wide leader of yellow copper, full of the peacock stains. There is no mistake about these discoveries, as anyone who chooses can walk into the levels and ascertain the facts for himself. There is also a nice branch of lead ore to be seen in the Ashford Mine. There are one or two other mines in the immediate neighbourhood that are well worthy of attention—for instance, the old Nantmelin Mine has many advantages for development, and is well worthy of it. I have no interest in it, and I only write of mines according to my honest opinion as to what they really are. If I err they are certainly errors of judgment, and not of intention.—Nov. 26.

CARACTACUS.

#### THE RED RIVER, AND WASTE OF TIN.

SIR,—It is many years ago since I left Cornwall, its mines, and its miners for abroad, still I feel a deep interest in their welfare, and have read with great interest the articles by different writers on tin dressing and the tin recovered from the Red River, below the mines, on its course to the sea. There is no doubt that the low price of tin during the last few years has been the means of doing a great and permanent good to Cornish mines by stimulating the zeal and invention of "One and All," and I hesitate not to say that on an average well-managed Cornish mine of to-day there is more work done for the same amount of money, and less mineral wasted from the shaft's mouth to the exit of the water from the mine on the number of tons handled than in any other mines in the world.

Still the fact remains that a large quantity of tin is recovered by gleaners from the waters of this river below the mines, but is it certain that all the tin so recovered, and the still greater quantity carried to the sea, is lost from the mines' dressing-floors owing to defective dressing machinery, and carelessness on the part of the much-abused, though in reality most useful and painstaking, captain dresser.

It is a well-known fact that fine particles of the heaviest metals, even pure gold, are held in mechanical suspension in water for a considerable period—so long as the water is in large volume and quick motion. Now, in the various levels and shafts of a tin mine there is a vast amount of pounding, grinding, and triturating done per day to get the mineral, and the most in the richest parts—the deep levels and shafts, where the best tin comes from. It would be interesting to know the length in miles of all the holes bored per annum in all the mines whose waters empty by adit levels into the Red River. What becomes of all the tin sludge and zinc engendered in working the wet shafts and levels? Does not a large quantity find its way to the sump in suspension in the water, is pumped to the adit level, and so to the Red River? Do not the sides of the hills and ravines converging to the Red River in their elvans, &c., contain a little tin? The Cornish bard says—

"Thy very rocks are brass—  
Thy hills are tin."

If so, by decomposition and heavy rains a certain portion of fine tin may get to the Red River from this source. The discussion relative

to the comparative merits of jiggers and round buddles was most instructive and interesting, and will lead to good. Would it not be well for some of the societies to offer a medal and certificate of merit to the manager of the mine with the best laid out dressing-floors to prevent waste and economise labour? Let all compete, and the best man win.

CORNWALL HENWOOD.

St. Eustatius, Dutch West Indies, Nov. 6.

#### THE GREAT TIN DISCOVERY AT ROCHE.

SIR,—During the past week the daily papers have contained reports of a great discovery of tin at the Rocks Tin Mine, and I, being in the neighbourhood, went to see for myself if the reports were true. The mine is about two miles from Roche proper, and close to the Bugle station on the Cornwall Minerals Railway. The eastern part of the mine was once worked by Mr. Webb, the celebrated engineer, and although he was a mechanician and not a miner the mine paid very well, and became reputed as the best little mine in the district. It was worked to a depth of 60 fms. from surface, and returned about 30 tons of black tin per month at a good profit. In some way, however, they lost the lode, and some of the ground running together the shareholders foolishly suspended operations. I say they were foolish advisedly, as the sequel will show that what they had done, however satisfactory, was but a tribute of what they had a few fathoms from their best workings. \* \* \* \*

Everything relating to metalliferous mining in Roche seemed in statu quo until a few weeks ago, when men were put to work in Rocks Mine (south of the old operations) in virgin ground, clear of all old men, to sink trial shafts and cross cuts to find the reputed floodery lode running parallel at a distance of about 70 fms. from the main Rock lode. The welcome sight of a "windlass and kibble," with men actually using it in mine prospecting operations was indeed a sign of the improvement in trade, of the return of capital to our almost forgotten county. The men in 20 days sunk two shafts 10 yards deep, in spite of an abundance of water, and cut the lode. \* \* \* \* The lode was found to be a leviathan; it has already been proved 10 ft. wide. The men are still cross-cutting without the least indication of approaching the other wall. The lodestuff is of a fine loose grain, and well impregnated throughout with tin. Although the lode will require blasting it will be an easy stamping stone, and will yield from 160 lbs. to 200 lbs. of black tin to the ton, as I have proved by actual vanning and weighing. \* \* \* It is difficult to estimate the width of the lode. The men have orders to "go through," and the district is accordingly waiting in great excitement for the result of the next few days.

The future of the mine is certain, and a brilliant success (perhaps unparalleled) a foregone conclusion. Arrangements will at once be made to lay down a large pumping-engine, and a battery of stamps and stone-breakers sufficient to pulverise 150 to 200 tons per day. Shafts will be sunk to intersect the lode at different points, and cross-cuts will be put out in view of laying the mine out for a permanent investment.

The mine will be carried to a great depth, as it has an underlie north of about 25 in. in 1 fm. The sett is more than sufficient to secure three-fourths of a mile of the lode in length, so that the mine will not only pay from its commencement, but will be able to prepare great reserves, and be developed as a model mine without injuring the dividends. With tin at any price this mine would pay, but if it goes higher, as everyone not only hopes but believes—then what will the profits be? \* \* \*

J. H. B.

#### SILVER MINING IN CORNWALL.

SIR,—With reference to the article in last week's Journal on Silver Mining in Cornwall, and the remarks made concerning the property to be worked by the Lady Ashburton Silver Mining Company, I would point out that the lodes of Old Harrowbarrow, said to be the oldest copper mine in England, pass through Lady Ashburton sett. These lodes are known as the Wheal Brothers and Wheal Langford lodes, but the latter, in the mine at Harrowbarrow, now worked by the Newton Silver Mining Company, has always gone by the name of the Well lode, and during the years 1877 and 1878 produced silver ore to the amount of about 10,000l., and a cross-cut north from this lode has been started at a depth of over 60 fms. from surface to intersect the Wheal Brothers lode in the same channel of ground. This cross-cut has been vigorously prosecuted for many months past, and it is expected that the Wheal Brothers lode will very soon be met with. If this lode is cut rich it cannot fail to have a very favourable effect on the prospects of the Lady Ashburton Mine, as both the Well lode and Wheal Brothers lode run through the sett.

Callington, Dec. 1.

CONSTANT READER.

#### CORNISH MINING—PRESENT AND PROSPECTIVE.

SIR,—Within the last four months, consequent on improved trade and enhanced prices of metals, the leading mines have gone up in market value far beyond the expectation of the most sanguine. Wheal Jane, in the parish of Kenwyn, has risen something like 500 per cent.; West Basset, in Illogan, 1200 per cent.; Dolcoath, in Camborne, 200 per cent.; Wheal Peevor, in the parish of Redruth, 700 per cent.; and numerous others the like, while Wheal Owles, in St. Just, from being offered gratis, without finding an acceptor, have risen to 100l. each. Doubtless the ushering in of the new year will cause some mines known to the writer as progressing towards a dividend state, and now quite overlooked by the investing public, to receive that attention which will secure for those who quietly purchase at the present nominal figure a good harvest, while others leave the golden opportunity of making money pass by.

CHAS. BAWDEN.

St. Day, Scourier, Cornwall, Dec. 3.

#### CORNISH MINING—THE GWENNAP DISTRICT AND ITS UNWROUGHT GROUND.

SIR,—It is desirable in the selection of mining ground that it should not only embrace the lodes intended to be operated on, but the other essentials conducive to the formation of minerals—a crystalline rock, traversed by cross-courses and elvans. In this respect the parish of Gwennap affords the most striking illustrations. At the foot of and around the granite upheave of "Carnmarth" may be said to include all the mineral ground of the district, known to have produced a revenue greater than the same area in any other part of the United Kingdom, or even in Europe. No mining property pays better, nor with less outlay, than copper mines, which throughout the county the capitalist will find an inexhaustible field for operation. This district, of all others, stood pre-eminent for a number of years, and the inference is there are yet as rich mines undiscovered as have been found. That we have had no great discoveries of copper for the last 20 years is due to the lack of enterprise in not developing the new or virgin ground; stimulated, however, by the improved price of metals, attention is now being drawn to this long-neglected district, ground having been taken on the line of same lodes which have given millions of profit, and when explored will be found of equal value. On the south slope of Carn Marth are the lodes of the famous Wheal Buller, in whole ground for a mile long, on their course towards the celebrated Clifford Amalgamated Mines, into which they run, and in which they have also been so rich. Evidences of rich copper deposits may here and there be seen by the outcrop of gossan, its sure precursor; here is a piece of unwrought ground between two of the most celebrated mines ever discovered in the county, and parallel to, and in the same prolific ground, is the Tresavean Mine, which on its first outlay of 1000l. only gave in the one year of 1833 a clean profit of 60,000l., and led on to profits exceeding half a million sterling. Another piece of virgin ground is on the western slope of the same granite hill, comprising within its limits, among others, the great flat lode now so productive in the adjacent mines of South Frances and West Basset, which two mines are selling at a market price of about 130,000l. Undoubtedly such mines are far preferable to embark into than undertakings such as the resuscitation of deep watery mines, where the capital necessary for pumping alone is greater than the outlay required to open up and prove some half dozen profitably productive mines. The ground referred to, I understand, has been taken with a view to development, the greater part of which will be held by



county men of capital, when combined with practical experience in the management will lead on to deservedly earned success.

St. Day, Scorrer, Cornwall, Dec. 3. CHAS. BAWDEN.

#### LADY ASHBURTON SILVER MINING COMPANY.

SIR,—The Lady Ashburton sett is situated on the south-western side of Kit Hill, a short distance on the outskirts of the market town of Callington, and 3½ miles from the shipping quays on the River Tamar, to which there are excellent roads. It is placed in the centre of rich mines, having on its south-eastern boundary Wheal Langford and Princess, and on the east is the celebrated Wheal Brothers, famous for rich and large deposits of silver ore. On the north is the Cornwall Great Consols Mine, lately started with every prospect of success, quantities of tin being found at only a few fathoms from surface. On the west lies Redmoor, producing tin, copper, and lead. A trial shaft has been sunk on a solid branch of mundic and flookan, very similar in character to one of the rich silver lodes worked by Capt. Malachi in Wheal Brothers, and at a shallow depth is reported to give 25 ozs. to 30 ozs. of silver per ton in certain portions of the lode. At Wheal Brothers it always preceded the finding of rich deposits of silver ore; and at Redmoor the same character of mundic always, within a few days driving on it, led to a rich bunch of silver-lead ore. Five east and west lodes of silver, tin, and copper run parallel through the entire length of the sett. The Silver Valley great tin lode, called in the old map "Good Luck" tin lode, runs from Silver Valley through this sett to Redmoor Mine. South of this is the north copper lode, and further south the Wheal Brothers silver lode, and the East Cornwall and Wheal Langford silver and copper lodes.

The following extract from the *Mining Journal* of March 19, 1870, p. 243, on the Assays of Silver Ores—No. VII., by T. L. Phipson, has reference to the extraordinary richness for silver of some ore from Lady Ashburton:—

... It remains now only to mention the native silver sometimes met with in the gossan of Cornwall, and the ruby and brittle silver ores which are found in that particularly favoured district, extending almost in a straight line from Callington to Tavistock. The latter kind constitute the true silver ore of Cornwall, and no other minerals in these islands yield such high results to analysis. I have examined a considerable number of samples of these ores—some from the parish of Calstock, others from the Lady Ashburton shafts, the Wheal Brothers, Silver Valley, &c. The results of a series of assays might be stated as having yielded fine silver from 80 ozs. to upwards of 8000 ozs.

Callington, Dec. 1.

CONSTANT READER.

#### SOUTH DARREN MINING COMPANY.

SIR,—I think "Old Shareholder" in his letter in last week's *Journal* has hit the real blot in the present management of the mine in his valuable criticisms on the excessive amount of the monthly mine costs. The question is not whether costs can be reduced at a future time when the returns are increased, but whether the present mine costs for each month, which are about 490l. for the average returns of 40 tons of lead each month and 40 tons of copper each quarter, are not higher than they ought to be. I think that they are far too high, and that for those returns they should have been some 80l. less at the least. If the mine only produced ordinary lead instead of having made a profit we should have made a large loss, and even with the increased rate of returns for the last two months should only have about met all the costs for the same time. The fact that the lead is of an unusually rich quality does not make the mine cost any larger. By using more machinery and fewer men (no less than 115 are now employed), and doing more contract and less piece work, the mine costs could be very greatly reduced without injury to the proper working of the mine. Of course if the returns are increased the mine costs will increase too, but if properly watched they need only increase in a far smaller proportion than the returns. I believe the monthly mine costs for October and November, during which months the rate of returns has been increased to 50 tons of lead a month and 50 tons of copper a quarter, and the monthly mine costs to about 500l., are some 40l. or 50l. a month too high.

I earnestly hope the directors will do all in their power to reduce the mine costs, although it be an unpleasant duty. I dread lest there should be appointed any new director with extravagant ideas on a matter of the very first importance to shareholders. To make a great mine is often the wild dream of impractical men, and to do this they not infrequently absorb the profits in development, and the company gradually fades away into liquidation. If the directors will only continually overhaul the mine costs, and really keep them down, not so as to starve the property, but so as to guard the shareholders against a waste of their profits, this splendid property will richly repay its shareholders with early, lasting, and increasing dividends.

Dec. 3.

SHAREHOLDER.

#### SOUTH WHEAL FRANCES.

SIR,—I was not aware, when I began to write you on the mine last week, that the water was then in the bottom of the mine, so as to prevent their working for the past week. This quite confirms what I pointed out, that every accident and every flood would drive them from the bottom levels, where they will now have to look for their returns of tin in any quantity. As Captain James stated at the meeting, I find they had 3 fms. more to stop against the West Basset boundary; but I am also informed, on reliable authority, that many of the men have already been taken off the stopes above the 185, through being close up to the boundary; and as I understand Captain James disputes Mr. Henderson's dialling by 1 fm., if Mr. Henderson is right, they may now be 1 fm. into West Basset sett. As Captain James is not a man to be turned with a feather, the mischief may arise on this point yet. They are, again, subject to be flooded by any accident that may occur in West Basset as well as their own, as water passes through now like going through a sieve. You will observe they are, after all, going to erect an engine to pump and draw on the new shaft; I do not, therefore, consider Captain James's denial that a pumping-engine was required there strictly honest. As they are going to put in 8 in. or 9 in. pumps, the public must form their own opinion on the truthfulness of his reply to the remarks in the *Journal*. It is curious also to notice in his report to the company that he gives the value of all the ends driving in the mine, but only the cost of driving in one, and that is the one in the bottom of the mine valued at 30l. per fathom. I conclude from this—first, that there is only one end in the mine that can be driven at a profit; secondly, as it was observed in my remarks on another mine in the *Journal* last week, that the ends were the true test of the value of a mine; if this is so, which looks reasonable and sound, what is the value of South Frances? At present only one end pays for working, and all the rich tin stoped away. As you must understand, all the rich ground above the bottom level may now be considered done. Then to pay a 15s. dividend, having a new engine-house to erect, two skip-roads to put in, or road for skip and road for cage to lift men up and down in, and, probably, largely new timber both shafts. As it is bad generally to fix new work to old timber, they have a good work cut out before them, to say nothing of the repairs to two other engines and boilers, &c.; and, as the Captain said at the meeting, ten times as much as any stranger could point out they knew more. This being the case, there is, I consider, no doubt, a considerable amount of repair wanted all through to put things even in a satisfactory state.

CARN BREA.

#### SOUTH FRANCES MINING COMPANY.

SIR,—It is impossible for anyone to read the letter of "Carn Brea" in the Supplement to last week's *Journal*, without discovering the motives underneath; but, happily, people are getting aware of anonymous letters being written by designing and unscrupulous bears, to filch the shares of a good mining property from the hands of honest investors. To refute all the statements of "Carn Brea" I have only need to refer the shareholders of this mine and your readers generally to the agent's report presented to the meeting. Your readers will find that this company is paying the largest interest in dividends of any mining property in this country on the present price of the shares. The prospects of the mine are improving, and after paying a dividend of 15s. each share there is a balance left in favour of the company of over 2900l. I am informed that a dividend of 20s. per share will be paid at the next meeting; therefore,

the price of shares will most likely advance some pounds before then, as people will not be slow to take the advantage of the present low price for making their purchases—and if "Carn Brea" does not make haste I fear he will not have his "ears tickled" nor his "eyes blinded" with the nice 20s. dividend at the next meeting. If "Carn Brea" had committed his letter to the flames instead of occupying a space in your valuable *Journal* he would have acted much wiser, for no one will ever put any confidence in what he may have to say in future.

C. W. SECCOMBE.

#### SOUTH FRANCES MINING COMPANY.

SIR,—Noticing several remarks of a depreciatory character in reference to this mine in the columns of the *Journal* during the past few weeks I was induced to come into Cornwall to attend the meeting, and satisfy myself as to their correctness or otherwise. The meeting was largely attended, some 50 to 60 gentlemen being present. The "boundary," "crooked shaft," and "water" bugbears were thoroughly discussed, and satisfactorily disposed of. From the information I obtained at the meeting, and also from several of the leading mining men of the neighbourhood, I unhesitatingly assert that in my opinion the remarks referred to are utterly unfounded. The expression of the meeting was one of unbounded satisfaction at the future prospects of the mine. The tin (204 tons) sold during the last four months realised an average of 47l. per ton, leaving a profit of 3964l., out of which a dividend of 15s. per share, or 20 per cent. on present price of shares, was declared, carrying over some 500l. to 600l. to be added to the balance in company's hands, which now amounts to 2941l., a showing unequalled by any mine in Cornwall. If tin maintains its present price of 53l. per ton this company will in all probability make a profit of 30 per cent. during the next four months, and I shall be greatly surprised if the price of shares does not advance 50 per cent. during the same time. The ground being opened up in the bottom of the mine is much richer than any they have heretofore had, and I strongly advise shareholders not to part with their property at the present preposterous prices. I am induced to send this for publication more particularly in the interest of those shareholders who may be living in the North of England and Scotland, and who cannot easily attend the meetings, and see for themselves the true position of the mine.

Tavistock, Devon, Dec. 3.

R. C. S.

### Registration of New Companies.

The following joint-stock companies have been duly registered:—

"STEEL ARROW" STEAMSHIP COMPANY (Limited).—Capital 32,000l., in shares of 100l. The purchasing or building of a steamship for the conveyance of goods and passengers for any part of the world. The subscribers are—J. B. Sprott, Liverpool, 5; T. H. Johnson, Liverpool, 5; G. F. Juler, Liverpool, 5; M. Hutchinson, Birkenhead, 1; R. Peter, 32, Victoria Park-road, 3; R. Hutchinson, Liverpool, 1; J. Drine, Liverpool, 1.

THE BARMOUTH ESTATE COMPANY (Limited).—Capital 50,000l., in shares of 10l. To acquire the marine terrace at Barmouth, with the adjoining land, improve, develop, sell, or otherwise dispose of same. The subscribers (who take 50 shares each) are—J. C. Stokes, Birmingham; W. H. Osborn, Harborne; R. Turton, Snow Hill; J. Richards, Wednesbury; L. Keller, Southport; W. Aston, Birmingham; W. T. Smedley, Birmingham; T. Fokes, Harborne; E. W. Simpkin, Birmingham; J. Neale, Birmingham.

THE COBHAM STUD (Limited).—Capital 50,000l., in shares of 50l. To acquire real estate, to erect buildings thereon, and carry on the business of a stud company. The subscribers are—C. Patrick, Manchester, 10; E. B. Jenkins, 9, St. George's-place, 1; G. Gregson, 43, Claverton-street, 1; C. A. Hollingsworth, 3, Shirley-place, 1; R. J. Smith, 3, Bishopsgate-street Within, 1; G. Robertson, Leytonstone, 1; P. Sleight, Islington, 1.

THE BLACKWOOD COFFEE COMPANY (Limited).—Capital 100,000l., in shares of 20l. To acquire by purchase two estates situate in the Island of Ceylon, called Blackwood and Dehegalla, and any other estates. The cultivating and developing of same, and to carry on the business of coffee planters. The subscribers (who take one share each) are—J. B. Alston, 22, Mincing-lane; J. G. Watson, 4, Cullum-street; J. Macmillan, 22, Mincing-lane; J. A. Williams, 22, Mincing-lane; J. Gilmour, Helensburgh; C. Hamilton, Helensburgh; A. Hamilton, Helensburgh.

NORTHFLEET CHEMICAL COMPANY (Limited).—Capital 20,000l., in shares of 10l. To acquire by purchase premises at Northfleet, and to carry on the business of a chemical company in all its branches. The subscribers are—J. Lomas, 7, Fenchurch-street, 200; E. Schubert, 32, St. Swithin's-lane, 1; C. C. Baker, Clapton Park, 1; W. Parkins, Forest Hill, 1; T. W. Martin, 32, St. Swithin's-lane, 1; C. F. Dern, 60A, Watling-street, 1; P. Pointz, 70, Lower Thames-street, 1.

JEYES' DISINFECTANT SOAP COMPANY (Limited).—Capital 10,000l., in shares of 1l. To carry on the business of soap manufacturers in all its branches. The subscribers (who take one share each) are—A. J. Soares, St. Peter's Park; H. Holford, East Dulwich; F. W. Such, Wood Green; E. A. Whittemore, 48, Brownwood-road; P. M. Burnside, 1, Merton-road; E. G. Allwright, Bow; W. H. Slack, 72, Mark-lane.

ESTATES TONTINE ASSOCIATION (Limited).—Capital 30,000l., in shares of 1l. To purchase or otherwise acquire, hold, exchange, deal, and advance money upon securities. The subscribers (who take one share each) are—T. Dickson, Colney Hatch-lane; E. E. Scott, Lee; J. Scott, Lee; C. Niam, Dalston; J. W. Oram, 66, Coleman-street; E. G. Maxwell, 27, Walbrook; C. Hamilton, Leytonstone.

THE SINGLE TEA COMPANY (Limited).—Capital 55,000l., in shares of 10l. The purchase of tea estates in Assam, and to carry on the business of tea planters. The subscribers (who take one share each) are—V. B. Schelch, 19, Hyde Park-place; W. Gur, 87, Great Tower-street; R. S. Paley, 6, Grosvenor Gardens; P. Butler, 40, Queen's Gate Terrace; J. Wilson, 32, Tregunter-road; A. Bryans, Foot's Cray; P. R. Buchanan, 57, Gracechurch-street.

TITUS SOMERFIELD AND SON (Limited).—Capital 10,000l., in shares of 5l. To purchase the business of J. J. M. Hopkins and T. B. Cox, and to carry on said business of awl blade manufacturers at Bloxwich, Staffordshire. The subscribers are—T. B. Cox, Wolverhampton, 50; J. J. M. Hopkins, Bloxwich, 50; T. Horton, Wolverhampton, 10; J. E. Perry, Wolverhampton, 10; J. S. Hopkins, Edgbaston, 25; W. G. Reynolds, Birmingham, 5; J. Whittaker, 10, Wormwood-street, 5.

THE MUNICIPAL TRUST COMPANY (Limited).—Capital 300,000l., in shares of 50l. To carry on the business of a trust company in all its branches. The subscribers (who take two fully paid up shares each) are—C. E. Lewis, 29, Norfolk-street; E. Bishop, Gipsy Hill; R. Paton, 43, Highbury Quadrant; J. H. Webster, 14, Chapell-street; J. E. Hodges, 25, Abchurch-lane; G. Parker, Highgate; J. C. Hodge, Charlton.

THE BOLTON JUNIOR REFORM CLUB COMPANY (Limited).—Capital 5000l., in shares of 1l. The establishment of a club at Bolton. The subscribers (who take one share each) are—J. Watson, Bolton; G. Stirling, Bolton; E. Sharples, Bolton; W. Green, Bolton; T. W. Fletcher, Sharples; F. Wesbury, Bolton; J. Cardingley, Bolton.

THE SWANSEA BLAST FURNACE COMPANY (Limited).—Capital 50,000l., in shares of 200l. To carry on at Landore, near Swansea, the manufacture of iron and coke, and to deal in same. The subscribers are—J. Menier, Swansea, 15; C. W. Siemens, 12, Queen Anne's Gate, 12; F. A. Yeo, Swansea, 10; P. Burton, Swansea, 5; G. P. Strick, Swansea, 5; C. J. Brook, Swansea, 5; G. H. Strick, Swansea, 5.

THE ELECTRIC CARBON COMPANY (Limited).—Capital 15,000l., in shares of 5l. The manufacture and sale of carbon plates, cylinders, &c. The subscribers are—F. Hamel, 70, Avenue-road, 50; A. D. de Hamel, Tamworth, 50; S. Foster, 27, James-street, 50; G. Smith, West Dulwich, 50; H. S. Foster, 3, Copthall Buildings, 1; C. Hight, 3, Copthall Buildings, 1; F. Howard, Peckham Rye, 1.

THE IRISH WHISKEY BLENDING COMPANY (Limited).—Capital 20,000l., in shares of 5l. The purchase of whiskeys to blend for the purpose of sale in Liverpool. The subscribers are—W. Bailey, South-

port, 30; C. H. Ayers, 28, Nutford-place, 1; A. Sutton, 37, Short's Gardens, 1; H. Edwards, 2, Artley-street, 1; A. Whitley, 109, Crawford-street, 1; G. D. Robinson, Liverpool, 25; E. M'Conicdie, West Croft, 1; H. Grey, Southport, 25; W. H. Crabtree, Liverpool, 25.

THE LONDON AND LIVERPOOL MUTUAL MARINE INSURANCE COMPANY (Limited).—Capital 500,000l., in shares of 10l. For effecting all kinds of marine insurances. The subscribers (who take one share each) are—A. Kuss, Forest Hill; E. Bigloma, Harlesden; C. Roseman, 1, Jeffrey-square; E. Iveson, 26, St. Mary Axe; J. B. Ball, Putney; W. Gottwalt, Cirencester.

TYDEE IRON AND TIN PLATE COMPANY (Limited).—Capital 20,000l., in shares of 100l. The purchase of the Tydee and Rogerstone Works, in Monmouthshire, and to carry on the business. The subscribers are—J. Lawrence, Crick, 10; L. Lewis, Pengam, 10; T. L. Brewer, Dan-y-Graig, 1; E. D. Williams, Maesrddud, 10; E. R. Lewis, Pengam, 10; C. Lewis, Newport, 5; M. Williams, Maesrddud, 10.

THE WESTERN DISTRICT CO-OPERATIVE SOCIETY (Limited).—Capital 10,000l., in shares of 1l. To carry on the business of a co-operative company in all its branches. The subscribers are—C. J. Townley, 4, Holland Park-terrace, 25; R. G. Birch, 28, Clarges-street, 25; W. Watson, St. Stephen's Chambers, 25; A. V. L. Coombs, Dorchester, 25; W. O. Youngusband, Belsize Park, 25; R. B. Woodward, 7, Ebury-street, 25; W. Price, Addison, 2.

BATH TRAMWAYS COMPANY (Limited).—Capital 50,000l., in shares of 10l. To construct, work, and maintain tramways in Bath and neighbourhood. The subscribers (who take one share each) are—Sir W. Brett, Escher; C. E. Davison, Twickenham; F. Heseltine, 1, East India Avenue; J. F. Meston, 20, Spring Gardens; W. Butler, Clifton; T. Low, Clifton; T. Davey, Clifton; H. Gardner, Bristol.

THE METROPOLITAN AND SUBURBAN MINERAL WATERS COMPANY (Limited).—Capital 5000l., in shares of 5l. The manufacture and sale of mineral and aerated waters. The subscribers (who take one share each) are—W. H. Ash, Walthamstow; W. Cook, Kingsland Green; H. Worseldine, 3, Edith-road; J. Lowick, Finsbury Park; A. G. Hogarth, 11, Lawrence Pountney Hill; W. H. Hogarth, Gurney-road; W. Rogers, 98, Forest-road.

THE MARBOS QUARRIES COMPANY (Limited).—Capital 10,000l., in shares of 10l. To purchase or otherwise acquire an agreement with respect to certain quarries, and to work the same. The subscribers are—H. J. Saunders, Bradford, 40; T. B. Saunders, Bradford, 10; A. T. Simpson, 54, St. George's-square, 40; R. P. Spice, 21, Parliament-street, 20; H. Robinson, 7, Westminster Chambers, 5; G. Treherne, 28, Bedford-row, 5; T. Lilley, Lewisham, 5.

THE JUNCTION IRONWORKS COMPANY (Limited).—Capital 35,000l., in shares of 5l. To carry on the business at Newton, Manchester, of engineers, machinists, and machinery manufacturers. The subscribers are—G. Heywood, Rotherham, 100; W. Brocklehurst, Rochdale, 50; C. E. Thompson, Manchester, 50; J. Sharpe, Liverpool, 50; H. Ingham, Halifax, 50; J. Oddie, Halifax, 20; W. Whitaker, 1, Chancery-lane, 10.

THE CARLISLE FARMERS' MUTUAL MANURE AND TRADING COMPANY (Limited).—Capital 10,000l., in shares of 5l. To manufacture chemicals and manures, and to carry on the business of chemical and manure merchants in all its branches. The subscriber, are—R. Errington, Scotch Farm, Cumberland, 40; J. Gill, Carlisle, 20; E. Lawson, Irving, Cumberland, 20; G. Waugh, Blacknell, Cumberland, 5; T. Peat, Glasson, 5; C. Jones, Carlisle, 4; J. Wills, Bowness, 4.

THE BICKTON SILVER-LEAD AND MANGANESE MINING COMPANY (Limited).—Capital 30,000l., in shares of 1l. To acquire by purchase or otherwise the Bickton Silver-Lead and Manganese Mine, situated at St. Ives, Cornwall. To develop, explore, and work same and other mines that may become the property of the company. To deal in and dispose of ores, minerals, and coals generally, and to construct any roads, wharves, canals, &c., that may be found necessary. Generally to carry on the business of a mining company in all its branches. The subscribers (who take one share each) are—G. Batton, Wandsworth, Office of Customs; E. C. Nicholls, 18, Golborne-road, no occupation; G. Ives, Hammersmith, no occupation; G. Nye, Camberwell, out of business; B. Gregory, 49, Cannon-street; W. Bennett, Hammersmith; W. Wheeler, 49, Cannon-street. Registered without Articles of Association.

### THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the markets have been generally firm. This is one of the quietest months of the year, and at a time when speculators often attempt to close their accounts, so that favourable opportunities occur for buyers. Should any such depressions present themselves they should be taken advantage of, because the leading departments of trade are showing a continuance of the steady improvement, and the Indian trade is also improving. The prospects of a great rise next spring are, therefore, still good, and all mining and mineral shares which remain at depressed prices are certain, if the concerns are sound, to participate in the approaching advance.

Shares of coal and iron companies have been strong this week. Bolckow, Vaughan, A. have advanced 1l. 10s. per share; Nant-y-Glo and Blaenau (pref.), 10s.; Chillingworth, 6s. 3d.; Ebbw Vale, 5s.; Omnia and Cleland, 4s.; Benhar and Clyde, each 3s.; Monkland, ordinary, 1s. 6d.; and Macella, 1s.; while Monkland, preference, are 5s., and Steel Company of Scotland 2s. 6d. both lower. Scottish Australian shares are now dealt in ex div. Pig-iron, which had an upward tendency owing to the miner's strike, has gone easier since the miners gave way, but should the price recede a few shillings investors should go in for warrants unhesitatingly. There is going to be a big demand for iron in the spring. Manufactured iron of all kinds is in great request, and stocks are about exhausted. It will be noticed that although production in many districts has now been raised to its maximum the demand is so great that it will require to be further increased. It is very satisfactory to notice that not only the American and Canadian but also the leading continental metal industries are all sharing in the revival.

At the Rhymney half-yearly meeting, on Dec. 11, a probable increase of the debenture capital is expected. Benhar shares opened at 4s., and advanced to 4s.; they remain very firm, and are considered a very safe speculation for a rise. The preference shares were sold at 90s. Andrew Knowles and Sons are at 5½ dis.; ditto (full paid), 48; Ashton Vale, 7; Bilboa Iron (pref.), 26; Bolckow, Vaughan, A. 7s. to 75; ditto, 3s. 3d.; ditto, stock, 12½; ditto, pref., 19½; Chillingworth, 90s. to 95s.; Charles Cammell and Co., 7½ dis.; Clyde Coal rose from 72s. to 79s. Cairnbarrow Gas Coal (3½ paid), 5½; Consett, 20½; Cardiff and Swansea, 45s.; Carnforth, 30; Darlington, 8½ dis.; Ebbw Vale, 11½ to 17½; Great Western, B. 55s.; John Bagnall and Sons, 32s. 6d.; John Brown and Company, 11½ dis.; Lochare and Caplethrae, 15s. to 20s. Marbella rose from 44s. 6d. to 50s. Monkland from 59s. 6d. to 66s.; ditto, pref., which had previously been rising, got further up to 7½, but on realisations went back to 63s. 9d.—now firmer. Munz's Metal, 16; Mersey, 50s. dis.; Nant-y-Glo and Blaenau, pref., 24 to 25; Newport Abercromby, 7; Nerbudda, 30s. dis.; New Sharnbrook, pref., 7. Omnia and Cleland rose from 17s. 6d. to 22s. 9d. Parkgate, 47s. 6d. dis.; Pelsall, 50s. dis.; Sandwell Park, 19; Scottish Australian, 40s. to 45s.; Sheepbridge, 14s. Steel Company of Scotland have been selling from 11l. 16s. 3d. to 12l. 2s. 6d. Steel Company of Canada, 60s. to 100s.; Staveley, C. 8½; South Wales, 85s.; Thorp's Gwiler Hall, 45s. to 55s.; Tredegar, B. 20½; Ulverston, 90s.; West Cumberland, 6½ dis.; Whitehaven, 10s. to 30s.; Wigan, 54.

Shares of foreign copper and lead companies continue to be taken by investors, the reported reduction in the Ohil charters creating a favourable impression. On the week, Cape have advanced 2l. per share; Rio Tinto, 7s.; Panulicillo, 5s.; Rio Tinto (7 per cent.), 3s. 9d.; Canadian, 3s.; and Huntington, 2s. The Cape Company has declared a dividend of 12s. 6d. per share, payable Dec. 24. The Rio Tinto Company publish the numbers of their 7 per cent. Mortgage Bonds drawn for repayment on Jan. 1; also of the 5 per cent. bonds bought for the sinking fund and cancelled. Yorke Peninsula (preference) shares are in demand owing to the large amount of overdue interest they carry, along with the good mine reports. Tharsis advanced from 30½ to 31½, and continue firm. Alamillos are at 35s.; Canadian rose from 14s. 6d. to 20s.; Cape, 34½; English and Australian, 37s. 6d.; Fortuna, 5½; New Quebrada, 67s. 6d.; Rio Tinto (5 per cent.), 85½; Yorke Peninsula, 3s. 9d. to 6s. 3d.; ditto (preference), 18s. 9d. to 21s. 3d.

In home mines, copper shares have advanced, but tin mines are flatter. Glasgow Caradon are 6d. lower, but the new shares 2s. higher. At the South Frances meeting a profit of 3960l. was shown, and a dividend of 15s. per share declared. Killbreth shares are scarce, and expected to rise, as all the relinquished and forfeited shares have been placed in good hands. Penhalis firm, and a profit likely to be shown at the next meeting. Carn Brea are at 53; Caron, 25s.; Dolcoath, 53; Devon Consols, 6½ to 7; East Caradon, 52s. 6d.; East Van, 50s.; East Chiverton, 40s. to 50s.; East Lovell, 42s. 6d.; East Crebor, 25s. to 27s. 6d.; East Craven Moor, 9½; East Roman Gravelly, 13s.; Glenroy, 11s.; Great Laxey, 18½; Grogwinlow, 75s.; Killbreth, 9s. to 11s.; Ladywell, 7s.; Leadhills, 75s. to 85s.; Marke Valley, 32s. 6d.; Pant-y-Mwyn, 47s. 6d.; Penhalis, 35s. to 40s.; Roman Gravelly, 13s.; South Caradon, 72½; South Darren, 65s.; South Frances, 11 to 11½; South Condurrow, 13 to 14; Tankerville, 5½ to 6; Tincroft, 16; Van, 23; West Chiverton, 65s.; West Pateley, 45s.; West Basset, 11½; West Ashton, 60s.; West Folgoath, 40s.; West Fodice, 20s.; Wheel Agar, 6½; Wheel Basset, 60s.; Wheel Peever, 19½.

In shares of gold and silver mines prices are firm. Richmonds 10s. higher, at 9½ to 10½; this week's run being 340,000. A good report has been received from the Colorado United Mines. The produce at St. John del Rey for the second division of November is 8000 oits., and yield 7-2. Australasian Mines, 5s.; Don Pedro, 15s. to 16s. 3d.; Eberhardt, 67s. 6d.; Exchequer, 6s.; Flagstaff, 27s. 6d.;



Frontino, 50s.; I.X.L., 5s.; Javali, 3s. 3d.; London and California, 15s.; New Zealand Kapanga, 10s.; Port Phillip, 10s.; Pestana United, 7s. 6d.; ditto (pref.), 15s.; 20s.; Santa Barbara, 35s.; Sierra Buttes, 35s.; South Aurora, 2s. 6d. to 5s.; United Mexican, 55s.

In shares of oil companies, owing to the dividends being paid, prices are easier. Broxburn, Uphall, and Young's Paraffin are each 2s. 6d. lower, and Oakbank 1s. 6d. The dividend on the Oakbank shares is 2s. per share, and due Dec. 12. Young's shares firm at 14s. 1s. 3d. to 14s. 5s. Price's Candles, 9½; Runcorn Soap and Alkali, 12s. 6d. 1s.

In shares of miscellaneous companies there is more business doing, but prices are not much altered. The Clyde shipbuilding trade did a large amount of work last month, and the prospects are good owing to the large amount of new work secured. As soon as the drawing departments can prepare plans and specifications a great deal of work will be put on the stocks. The striking improvement is shown by the number of stocks put down, which were 30 last month, as against 24 in October, 14 in September, and 10 in August. Cheshire Salt, 9; Earle's Shipbuilding, 20 dis.; Miller's Safe, 9½; Neufchatel Asphalte, 6s. to 8s.; Palmer's Shipbuilding (B), 8 dis.; Val de Travers Asphalte, 70s. In shares of wagon companies prices are: Ashbury, 54 dis.; ditto, new, 70s. dis.; Bristol and South Wales, 6½; Bristol, 40s. dis.; Birmingham, 15; Gloucester, 10; Lancaster, 80s.; Metropolitan, 60s. prem.; Midland, 11 to 12; Railway Carriage, 5½; Swansea, 45s.; Union Rolling Stock, 30s. prem.; United States Rolling Stock, 17 to 17½; Western, 50s. The shares of chemical companies continue quiet, in sympathy with the dull state of the trade. Lawes', 5 to 5½; ditto, pref., 9½ to 10; Langdale's, 70s. to 75s.; and Newcastle, 92s. 6d.

RAILWAY ROLLING STOCK COMPANY (Wolverhampton).—Owing to the late depression in trade the directors of this company were refusing large contracts offered to them in case of commercial difficulties; consequently, now that trade is improving they will feel safer in going into work more extensively, and will make larger profits. The shares should, therefore, be worth attention. They balance every half-year, and at June 30 last a profit of 3631s. was reported. The company's stock of wagons numbers 4107. The reserve fund was increased to 8729s. The capital is 87,500s. In preference shares, and 70,000s. in ordinary shares—the dividends in the former being fully paid, while the ordinary shares get 3 per cent.

CLYDE COAL COMPANY (Limited).—At the meeting of this company the Chairman explained that the unfavourable result so far of the company's working was due to bad trade and financial difficulties. The accounts are brought up to August last, which includes the full period in which the coal trade had suffered from an unexampled depression; but since then a marked improvement has taken place, which would benefit all the current year's accounts. According to the report of the works committee the company appears to be a valuable one, and it has every prospect of taking a better position in the future.

The following calculations show the rate per cent. yielded on money invested at present prices in the shares named, based upon the last average yearly dividends being maintained. In coal and iron companies, Arncliffe would yield 6½, Bolckow, Vaughan (stock) 3½, Cairnstable 14½, and Muntz's Metal 7½. In oil companies, Dalmeny would yield 4½, Oakbank 9½, ditto (new) 9½, Phospho-Patent Candle 8½, Uphall 5½, and Young's Paraffin 7½. Phospho-Guan shares would yield 3½, Scottish Wagon 5½, ditto (new) 5½, Tharsis Sulphur and Copper 4½, ditto (new) 4½, and United States Rolling Stock 4½.

MINERAL POINT TUNNEL COMPANY.—These mines comprise one of the, if not the, most extensive and valuable sets of mineral properties in Colorado, forming what may be termed quite a unique set of mines even for that wonderful country, where it may be truly said that mining of every description, great as it now may be, is yet only in its infancy. The local papers all refer to it as a most stupendous scheme. The idea of letting daylight through a mountain was a novel one, and originated through the impossibility of working in winter at such a height under a snow-covered mountain. The scheme is to drive a tunnel a distance of 7000 ft. right through this mountain and tap no less than 37 mammoth lodes, striking some of them 1000 ft. below the surface. Some of these veins are 50 ft. wide, and show surface croppings that assay 850 to 830000 per ton, so the value of the ore, if it increases as usual as depth is attained, will be simply immense. The expectation is that a bonanza of wealth will be unearthed that will compare with the famous Consolidated Virginia or Comstock. The bona fide nature of the enterprise is vouched for by a report from Mr. Joseph Taylor, the eminent London engineer, who has examined it carefully, and has brought home specimens of the ore. He says should the J. B. Norris or Manue Pratt lodes be cut rich they will have a mine of extraordinary wealth.

Now, it is most important to observe that the President has just cabled over to this country announcing that they have found the great J. B. Norris vein in the course of their operations in the great master tunnel, which is being driven with great vigour through and under the entire set of mines. At any moment, therefore, the most sanguine expectations formed may be fully realised. Of course, workmen will be put on at once to work out the several veins already cut by the tunnel, and many mines now being worked outside of the limits of the tunnel are stopping work, so as to begin to work through the tunnel by paying this company a royalty. It is one of the best investments in the United States, and one expected to make larger returns for money invested in 12 or 15 months than anything in the world. The American shareholders hope the shares will go to 100, each by that time. Owing to the failure of the Consolidated and Mechanics' Bank in Montreal, who held it as collateral security, some of the stock has at present come to market. It is fully paid (\$10 paid), and no calls can be made. The shares can only be dealt in as American companies generally, in lot of 10 shares and upwards. The price is 7½, or equal to 30s. per share.

Capital.	Dividends.	Rate per cent.	Description of shares.	Last price.
Per share.	Per annum.	Previous.		
£10	£3	£5	Arncliffe Coal (Limited) .....	6½
10	10	10	Bolckow, Vaughan, and Co. (Lim.) .....	48s.
100	60	25s.	Bolckow, Vaughan, and Co. (Lim.) .....	7
10	10	10	Cairnstable Gas Coal (Limited) .....	14½
10	10	10	Chillingstone Iron (Limited) .....	92s. 6d.
10	10	10	Clyde Coal (Limited) .....	75s.
23	10	10s.	Edinburgh Steel, Iron, and Coal (Lim.) .....	9½
10	8	10	Edinburgh Steel, Iron, and Coal (Lim.) .....	90s.
10	10	10	Glas. Port Washington Iron & Coal (L.) B. .....	80s.
10	10	10	Ditto, A .....	80s.
10	10	10	Lochore and Capelrae (Limited) .....	20s.
10	10	10	Marbella Iron Ore (Limited) .....	46s.
10	10	10	Monkland Iron and Coal (Limited) .....	61s.
10	10	10	Ditto, Guaranteed Preference .....	65s.
100	100	100	Nant-y-Glo & Blaenau Ironworks pref. (L) .....	25
6	6	15	Omoa & Cleland Iron & Coal (L. & Red.) .....	23s.
1	1	1	Omoa & Cleland Iron & Coal (L. & Red.) .....	40s.
1	1	1	Ditto, New .....	20s.
100	100	100	Shotts Iron .....	66
10	8	10	Steel Company of Scotland (Lim.) .....	11½

Capital.	Dividends.	Rate per cent.	Description of shares.	Last price.
Per share.	Per annum.	Previous.		
10	4	7	Canadian Copper and Sulphur (Lim.) .....	18s.
10	4	7	Cape Copper (Limited) .....	34½
1	1	1	Glasgow Caradon Copper Mining (Lim.) .....	28s.
1	1	1	Ditto, New .....	20s.
10	10	10	Huntington Copper and Sulphur (Lim.) .....	43s.
10	10	10	Panullico Copper (Limited) .....	5
10	10	10	Rio Tinto (Limited) .....	7
20	20	7	Ditto, 7 per cent. Mortgage Bonds .....	19½
100	100	5	Do., 5 p. ct. Mor. Deb. (Sp. Con. Bds.) .....	82½
10	10	17½	Tharsis Copper and Sulphur (Limited) .....	30½
10	10	17½	Ditto, New .....	20½
1	1	1	Yorke Peninsula Mining (Limited) .....	6s. 3d.
1	1	1	Ditto, 15 per cent. Guaranteed Pref. .....	18s. 9d.

Capital.	Dividends.	Rate per cent.	Description of shares.	Last price.
Per share.	Per annum.	Previous.		
1	1	1	Australasian Mines Investment (Lim.) .....	5s.
5	5	7s. 6d.	Richmond Mining (Limited) .....	9½

Capital.	Dividends.	Rate per cent.	Description of shares.	Last price.
Per share.	Per annum.	Previous.		
10	8½	5	Broxburn Oil (Limited) .....	17½
10	7	5	Dalmeny Oil (Limited) .....	8½
1	1	15	Oakbank Oil (Limited) .....	40. 6d.
1	1	15	Ditto .....	10s.
10	10	2	Uphall Mineral Oil (Limited) A .....	7½
10	10	10	Ditto, B Deferred .....	10
10	8½	17½	Young's Paraffin Light & Mineral Oil (L) .....	14½

Capital.	Dividends.	Rate per cent.	Description of shares.	Last price.
Per share.	Per annum.	Previous.		
50	25	5	London & Glasgow Engineering & Iron Shipbuilding (Limited) .....	25
7	7	5	Phospho-Guan (Limited) .....	5½
10	10	5	Scottish Wagon (Limited) .....	9
10	4	5	Ditto, New .....	87s. 6d.

NOTE.—The above lists of mines and auxiliary associations are as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them, and such information as can be ascertained from time to time to be inserted in these lists, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.  
Post Office Buildings, Stirling, Dec. 4.

THE ULVERSTON REVOLVING SHUTTERS.—The Canal Head Foundry and Engineering Works of Messrs. Salmon, Barnes, and Co., of Ulverston, are already favourably known to the readers of the *Mining Journal* in connection with the Roanhead Rock-Drills and Patent Air Compressors, of which that firm are the sole makers, and they have obtained a not less extensive reputation for the manufacture of revolving shutters in wood, iron, and steel. The essential feature in the Ulverston Revolving Shutters, which obtained the highest award at the York Exhibition, is the combination of great strength with lightness and economy, and the counterbalancing of them, and making the roller advance and recede, so that the wear and tear is reduced to the minimum. A friction pulley at the back of the roller presses the chain as it winds on the pulley, moving the

roller forward as the shutter descends, and backward as it rises; by this means the shutter always hangs vertically in the grooves, and the friction is reduced to a minimum. The weights are applied at each end, and the chain links are cut to the curve, thus easing the coiling action, while the chain itself is tapered to facilitate the motion and balance. The chain and weights can be carried to any distance behind the shutter shaft, so that it is difficult to suppose any position in which they would not be applicable. Messrs. Salmon, Barnes, and Co., have now issued a complete illustrated catalogue showing the Ulverston shutters in use for shop fronts, as well as inside and across bays in private residences, as partitions in private houses, schools, class-rooms, &c., and also for closing fire-places, book-shelves, the proscenium of a theatre, and warehouses. The most flattering testimonials have been received as to their value and durability, and they are certainly deserving of general adoption.

### Meetings of Public Companies.

#### TOLIMA MINING COMPANY.

The ordinary general meeting of the shareholders was held at the offices of the company, Finsbury Circus, on Wednesday, Mr. H. TRITTON SANKEY in the chair.

Mr. W. W. HOLMES (the secretary) read the notice convening the meeting. The reports and accounts were taken as read.

The CHAIRMAN said it was with much greater pleasure than he had ever had before in addressing the shareholders that he moved the adoption of the report now presented, because the directors now found themselves in the position of being able to declare a dividend, which, small as it was, would be hoped to be very satisfactory to those who were the recipients of it. (Hear, hear.) From the formation of the company their late chairman (Mr. Barrow) had felt such great confidence in the mine, and that they would ultimately find a bunch of ore and get into rich mineral ground, that he, as many of the shareholders were aware, invested largely in the company. He (the Chairman) hoped they were now realising Mr. Barrow's predictions. The report which the directors had put before the shareholders, coupled with the general manager's report, showed them fully the position of the company, and it would also show them that the manager had followed their instructions, and that in the development of the mine they were not picking its eyes out. Notwithstanding that the returns had been so good during the past six months the directors hoped for good returns and good dividends in the future. It would be seen by the accounts that they had thought it to write off a considerable amount in connection with the expenditure on the Organos Mine. They thought that as the machinery had turned out to be utterly useless this would be a favourable opportunity for striking the amount off, for it was not right that it should appear as an available asset in the company's balance-sheet. They had, at the same time, written off a rather large sum for deterioration of machinery. Nothing had previously been written off, but the directors thought it right to write off 1859s. 7s. 10d. from the year's profits on that account. Sooner or later this must have been written off from the balance-sheet. Most of the shareholders had probably seen the last letter from the mine, but, perhaps, it would interest them if he were to read a letter from Mr. Powles, who was interested in the property, and was at the present time visiting it. (The letter, which was dated Oct. 18, stated that Mr. Powles had visited the Frías establishment, and was conferring with Mr. Gledhill especially with regard to the treatment of low grade ores, and the more economical and expeditious dispatch of ore to Europe. Satisfactory progress was being made in both department, and further improvements would be carried out by Mr. Gledhill, in most of whose views the writer entirely agreed.) He thought the shareholders would agree that this was a satisfactory report to receive from a gentleman who was—as Mr. Powles was—deeply interested in the company, and who had every desire that it should turn out a success.

Mr. MORRIS asked for an explanation of the item of 1260s. 10s. 8d. for "loss on stores as per last re-valuation?"—The CHAIRMAN said the stores had been from time to time valued at a certain sum, but no doubt they had depreciated in value, and there was very probably some loss owing to peculation, which it was impossible wholly to prevent. With regard to the Alto Mine, it would be seen that this did not show largely in the returns of profits. They had not thought it advisable, as the shareholders were informed at the last meeting or two, to permit the capital of the company to be expended in any doubtful research in the Alto Mine. The gravel was there, and would remain there, and the manager was developing so much of the property as would pay for itself; but the directors thought that all the money at their disposal should go to the development of the Frías Mine, and he hoped that that policy would meet with the approval of the shareholders. They were still making a profit at the Alto Mine, and when they had the money to spare they could develop it more fully. The Chairman then moved—"That the report and balance-sheet for the year 1878-79 be adopted, and that, in conformity with the recommendation therein conveyed, a dividend of 7s. 6d. per share on the A capital of the company, paid up on May 31, 1874, be and hereby is declared."

Mr. H. B. SHERIDAN, M.P., in seconding the motion, expressed his opinion that a proportion of the depreciation should have been written off. In the case of the preliminary expenses they had very properly only written off a proportion. He asked what was the amount of debt owing on the Organos property, what were the bad debts at the Frías Mine, and what was the deterioration on the machinery? Should these items necessarily come into this year's account, or should only a proportion of them be debited?

Mr. C. O. ROGERS (a director) replied that in matters of writing off it was no use to have an amount standing to the credit of the balance-sheet which was absolutely useless. (Hear, hear.) If they had money to represent it it would be a different thing, but it would be seen that the company had no money to represent it, and, therefore, it must come out of the profits made. An analysis of the balance-sheet would show that they had received 95,700s. on the one side. The greater portion of that had actually been sunk in the purchase of the mine and machinery, the preliminary expenses, and the "B" shares (which they estimated at 1000s.), and the furniture in the office, amounting altogether to 90,000s. out of the 95,700s. raised. The amount of the unrealised ore left a surplus of 4220s., which was so much of the capital being used to realise that ore. They owed 2220s., and they had sundry creditors to the extent of 4000s. Their actual balance out of which to pay the dividend was 5000s. It would be no use to delay the writing off of the other items, for though it would apparently increase the profit for the year it could not increase the dividend. The gross profit was 11,000s., but the actual divisible amount was 5000s. They had abstracted a certain amount of capital in valuing a number of assets which were of no value.

Mr. SHERIDAN: Then the three items were not necessarily part of the current year's expenditure?—Mr. ROGERS: Certainly not. The directors believed they had now arrived at the end of the writing off, except in reference to the "B" shares. The machinery and stores were, he thought, fully worth the amount at which they were set down. The stores referred to were principally the plunger lift and other articles, which would realise little or nothing if they were taken out of the mines. When Mr. Gledhill made his first balance-sheet he re-estimated all these stores, and wrote down the value of the plunger lift and the other machinery from 7986s. to 2402s. The greater part of that was due to the re-estimation of the plunger lift.

Mr. MORRIS thought the directors were quite right in what they had done in writing off various things.

Mr. SHERIDAN merely wished to show that these were not necessary items of current expenditure. The mine had not got the re-valuation it deserved. They had really earned a profit of nearly 12,000s., and this had been reduced by writing off previous things. They had returned 33,000s. worth of ore, and yet the profit divisible was only 4000s. He would like to ask the secretary what had been the product of the company since its formation?

The SECRETARY said he had not the figures before him, but it could be very easily furnished, and he would let Mr. Sheridan have the information.

Mr. ROGERS, in reply to Mr. HANSON, said 1859s. was placed against the deterioration of machinery, the amount now being 3500s. instead of 5400s. He had already explained that it was in reference to the Organos machinery and not to ordinary deterioration.

Mr. SHERIDAN asked what would be the balance in hand after the payment of the dividend?

Mr. ROGERS replied very little had been received since the accounts were made up. It sometimes took nine months to realise the ore.

Mr. SHERIDAN said he meant to ask what was the profit actually made, whether realised or not, since the accounts were made up.

The CHAIRMAN replied that it was 5989s. Mr. ROGERS added that whatever profit they made now would be divided amongst the shareholders, as they did not intend to write off anything else.

The CHAIRMAN, in reply to Mr. MORRIS, said the company had the Alto Mine in perpetuity, and they hoped it would improve in value.

Mr. ARTHUR said it cost nearly 25 per cent. to get the ore to Europe, and he asked if nothing could be done to reduce this heavy expenditure?

The CHAIRMAN replied they were continually trying to effect a reduction, but great difficulty was experienced in reference to the mule carriage. Mr. Powles and Mr. Gledhill were doing all they could to get the cost of transit lessened.

Mr. ROGERS said the cost of transit was now 20s. per ton. The ore could not be dressed up to a higher percentage than it was at present—70 per cent.

Mr. STOK asked if Holloway's reverberatory process could not help them?

Mr. ROGERS replied that if the process could be carried out in New Granada it would be one of the most wonderful mineral countries in the world, as there was an abundance of pyrites in it. A company had been formed to work the process, and the directors of this company were watching the experiments that were being made by it. Mr. Powles had been interested in the company for many years, and would do everything that could be done to promote its success.

Mr. SHERIDAN asked how many lodes they had upon which they were working profitably?—Mr. ROGERS replied that they were only working on one lode, but the directors were continually recommending the driving of cross-cuts, &c., to develop the other lodes which they knew were near the present workings, and there was every hope that they would find other equally rich lodes.

The lodes referred to were really branches of the main lode. The supply of labour was very limited.

Mr. SHERIDAN said the prospects were that, if they went on as they were going on now, they would make a much larger profit than 4000s. at the end of the year.

The CHAIRMAN: No doubt.

Mr. STOK asked if there was no prospect that the Organos property would yield them profits?

Mr. ROGERS, in reply, said the difficulty in connection with Organos was that it was too far away from Frías to be managed by the same superintendent, and it was in a very wild country. The directors hoped to sell it some day or other.

The motion was then carried unanimously.

Major DICKSON, M.P., proposed the re-election of Messrs. H. Tritton Sankey, and C. O. Rogers, the retiring directors.

Mr. MORRIS seconded the proposition, which was carried, and the CHAIRMAN briefly returned thanks.

The CHAIRMAN then proposed the re-election of Messrs. L. H. Evans and J. Morgan, the auditors.—Mr. ROGERS seconded the proposition, which was carried, and, on the motion of the CHAIRMAN, seconded by Major DICKSON, their remuneration was fixed at 30 guineas.

Mr. SHERIDAN proposed, and Mr. L. F. EDWARDS seconded, a cordial vote of thanks to the Chairman and directors.

The proposition was adopted, and the meeting then terminated.

#### CARON LEAD MINING COMPANY.

A meeting of shareholders was held at the offices of the company, Change-alley, Lombard-street, on Wednesday.

Mr. W. BOWMAN in the chair.

Mr. HENRY R. MOORE (the secretary) read the notice convening the meeting, and the report of the directors was taken as read.

The CHAIRMAN: I have to propose the adoption of the directors' report and balance-sheet. Our report to you is very short, but we shall be glad to explain it to you in any way that we can. The mine is at present a young one, but we hope to see much better ground as we attain depth. Our manager, Mr. Kitto, is here, and he will show you plainly that the prospects of the mine in depth are very good. The balance-sheet is so simple that I need scarcely explain it. We have laid out a considerable amount of your money in developing the work, and we have endeavoured to do so in a very economical manner. I am not aware of any mine where plant of the value that we have got at Caron has been obtained for so little money. It is generally considered in the neighbourhood that the mine is a credit to those who have been concerned in it, and particularly in the erection of the machinery. I will call upon Mr. Kitto to explain as far as he can the present position of affairs.

Mr. BROOKES seconded the motion for the adoption of the report.

Mr. KITTO: I have really very little to say by way of supplementing my report. I have referred to everything that has been done up to Nov. 15, which is the date of my report, and very little change has taken place since then. I fully endorse all that I have stated therein verbally now, and would urge the necessity of deepening the mine with all possible speed. Therein lies our best chance, as I have already stated in my report. The lode, as you will see by the plan, is in these shallow levels somewhat disordered, and I think that until we get down deeper and into more settled ground it will to a certain extent continue so. By deepening the mine we shall, in my opinion, get into a more settled run of ore ground. The lode is big enough, and in many places there are well defined walls. The runs of ore-bearing ground are found chiefly where the walls of the lode are pretty well defined, but in other places they are twisted and turned from south to north and from north to south, and there is very little ore to be seen. I have not the slightest doubt that it will gather up and form a more regular and continuous lode as we get deeper down. As that is our best chance I cannot urge too strongly the necessity of rapid development in depth. If these remarks are insufficient I should be pleased to answer any question.

Mr. ROSS: You have sold 60 tons, but have you any more in the bin?—Mr. KITTO: Ten or 12 tons.

Mr. MACK: Have you any other points that would pay to stoep at the present price of ore?—Mr. KITTO: We are stooping two places that will pay, and I might say that further east, in the 22, our driving is approaching nearly to another run of ore ground that we had in the adit and the 10, and between that and the old eastern shaft there is a second run of ore.

Mr. CARR: Do you propose carrying on the 22?—Mr. KITTO: Yes, if for nothing else to ventilate the mine, but I do not propose to drive on any other point at present.

Mr. ROSS said that no recommendation was needed from the shareholders to urge upon the directors the desirability of giving practical effect to Mr. Kitto's suggestions.

The CHAIRMAN said the directors would support Mr. Kitto in his views.

Mr. KITTO, in reply to further questions, said he believed the monthly expenditure would be about 1200s. He expected to get 10 tons of lead a month, and with this nearly to pay expenses. (Hear, hear.) If two points in the 22 turned out as he expected they would not be afraid of being able to pay expenses.

Mr. ROSS enquired as to the company's financial position to carry out Mr. Kitto's views?—Mr. DAVEY (a director): We have no want of money. There is a sum of 1292s. uncalled, and our assets altogether amount to about 2300s., besides our reserved shares.

The CHAIRMAN: If we had a regular lode worth only 12 cwt. to the fathom we should pay expenses very well, and we have seen the lode in places worth double that. We have given instructions for the shaft to be sunk deeper with all possible dispatch.

The motion for the adoption of the report was then carried unanimously.

Mr. DAVEY proposed the re-election of the Chairman as a director, and said he was so useful that the company could ill afford to lose him.—Mr. EATON seconded the motion, which was unanimously agreed to.

The CHAIRMAN returned thanks, and said he hoped to be able to report a much better state of things at the next meeting. He would do all in his power to ensure the success of the mine, and more than that he could not say.

The auditor, Mr. Richard Ainley, was then re-elected, at a remuneration of five guineas.

The proceedings closed with a vote of thanks to the Chairman and manager.

#### WYE VALLEY LEAD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company, Change-alley, on Monday.

Mr. TIPPETTS in the chair.

For the purpose of considering and, if deemed advisable, passing the following resolutions or others to the like effect:—

That the leasehold interest, with the plant, machinery, and other effects of the company, be transferred to a new company in consideration of the said new company undertaking all the debts and liabilities of this company, including costs of liquidation, allotting to the holders of debentures, shares fully paid, representing 15s. for every 10s. debenture, in full of all claims for principal and interest, such shares to be guaranteed a preference dividend of 5s. per centum per annum out of the profits of each year, and to participate in any further profits which may remain for division after payment of a like dividend on the ordinary shares, such preference to cease when a dividend of 5s. per cent. per annum shall have been paid upon the ordinary shares for two consecutive years, and the allotment to the shareholders in this company of two 1s. fully paid shares in the company for every 3s. share held by them.

That the company be wound-up voluntarily.

To appoint a liquidator or liquidators.

That the liquidator be authorised to continue operations pending the transfer to the new company.

The CHAIRMAN said that after the last meeting, held on Nov. 3, a notice containing the above resolutions was sent to the shareholders.

With that notice was sent out a letter, signed by the secretary, which was as follows:—

26, Change-alley, Lombard-street, London, Nov. 22, 1879.

SIR,—Enclosed I beg to hand you notice of an extraordinary general meeting of the shareholders of the above company, to be held on Dec. 1, 1879, together with a copy of resolutions which will be proposed at the same. The directors have decided not to proceed with the resolutions submitted to the meeting held on Nov. 3. Should you be of opinion that the proposed plan of reconstruction is a good one, you can agree to, please give your support to the same by signing the proxy herewith in favour of Mr. Tippetts, and return it to me by an early post.

HENRY R. MOORE, Secretary.

The CHAIRMAN said that the resolution referred to in the letter was as follows:—

That the liquidator be authorised to transfer the lease of the mine, assets, and property of the company to a new company, with a capital of 41,250s. in consideration of such new company taking upon itself the payment of the debts and liabilities of this company, and of the allotment of 3000 shares of 25s. each, fully paid to the holders of the debentures in this company in satisfaction of principal and interest upon such debentures, such shares to be entitled to a preference dividend of 5s. per cent., and to participate *pro rata* in any further profits after payment of a like dividend to the holders of the ordinary shares, such right to a preference dividend to cease and be extinguished when a dividend of 5s. per cent. shall have been paid upon the ordinary shares for two consecutive years; also the allotment *pro rata* to the shareholders in the company of 30,000 shares of 25s. each, 1s. paid, leaving 5s. per share to be paid by the holders, the calls upon such shares being limited to 2s. 6d. per annum.

The CHAIRMAN said that was the resolution submitted to the last meeting, at which he himself suggested that a small committee should be appointed to confer with the board on the subject. That suggestion did not meet with the approval of the meeting—at any rate, it was not adopted, and the directors could only deem this as an evidence of the confidence which the shareholders reposed in them, and that it was not necessary to have the judgment of the board assisted by the aid of a few independent shareholders. (Hear, hear.) Since the last meeting the directors had given the proposition their best consideration, and had decided that it would not be possible to carry it into effect unless it were adopted by every member of the company, and as they did not see their



who held only 1001, in debentures. But no doubt that was a matter which could be arranged. The resolutions proposed to give for every 100 debenture shares in the new company to the extent of 15%, covering arrears of interest up to the present time, and to guarantee interest at the rate of 5 per cent. upon such 15% until such period as that amount shall have been paid for two consecutive years, and after that time they will take their interest the same as the other shareholders. To the other shareholders it was proposed to give, in respect to the present 3% share, two shares in the new company, with 1% per share fully paid up, so that it was not intended to make any further call upon the shareholders. That would amount to 24,500 shares, or 24,500%; it was proposed to make the capital of the new company 35,000, which would leave a sum of 10,500, with which to go to the public, which would be offered on certain terms, of which he need not go into at present, but which would be explained to any gentleman desirous of taking shares. It was for the 10,500, unappropriated in the purchase of the old mine that the directors proposed to obtain working capital for the future by the construction of the new company. The directors had certainly no right to ask the present shareholders to take up these new shares; at the same time the board hoped the shareholders would see that it was in their interest to participate in the new issue of shares, and take their proportion of them. (Hear, hear.) He believed, as a matter of fact, that there would be no difficulty in issuing them upon the terms contemplated, and the board would prefer that the existing shareholders should participate in any benefit which might arise from the issue of these new shares. He had been somewhat careful in making the above statement, as the plans of the new company were not yet perfectly formed, but he thought there was no objection to his saying that it was intended to make a certain number of these shares bonus shares in respect to the remainder. In conclusion, he formally moved the first resolution, given above.

Mr. BROOKES said he should be happy to second the resolution, believing that it was a fair and liberal arrangement for the old shareholders, and that it was decidedly to the advantage of the company that it should be carried out.

Mr. BEAUMONT said the proposition met his full approval, and also the approval of shareholders for whom he acted.

The resolution was then put to the meeting, and carried unanimously.

The remaining resolutions were then proposed by the CHAIRMAN, seconded by Mr. BEAUMONT, and carried; and a resolution was also passed appointing Mr. H. R. Moore as liquidator.

The CHAIRMAN, in answer to Mr. DAVEY, said the new company would, of course, be a limited company, otherwise he should have had nothing to do with it.

Mr. ROSS said that before the meeting separated they should have a few words from their friend Mr. KITTO. Speaking personally as a large shareholder, who had been interested in the company from its commencement, and also having several friends who were largely interested, he (Mr. ROSS) expressed his opinion that the shareholders to-day had done one of the wisest things they could possibly do to benefit the future of the company.

Mr. KITTO said a glance at the plan on the table would show the shareholders in a moment that, although the mine was a good one, they could not carry it on successfully with the main engine-shaft in its present position. That engine-shaft was a long way from the ore ground, and, as he explained at the last meeting, it would take at least two years to drive a tunnel from the engine-shaft up to the run of productive ground, but by putting the engine-shaft down as now proposed through the section of the ore ground that long drive would be avoided. When they got the new shaft down to the ore ground all they would have to do would be to drive east and west and take away the ore. To drive the levels through the unproductive ground would cost more than the ore was worth when it was reached. He endorsed Mr. ROSS's opinion with regard to the wisdom of what had been done to-day. They could not go on successfully unless money was found to carry down the new shaft; he should not want a penny for anything else; but, as a large shareholder in the mine, he wanted to make the ore available, and not to go on year after year not absolutely making a loss, but yet making no profit. He took 12 months to put down the shaft, and he had not the slightest doubt that they would obtain very handsome returns, and certainly he expected to have a very handsome return himself. (Hear, hear.) He approved of the resolutions, believing the change would be to the interest of the company, and he was very much pleased to see that the shareholders to-day had seen it to their interest to endorse and carry out the resolutions which had been proposed. He would not say that they would make much profit whilst the shaft was being sunk—perhaps they might make none at all; at the same time, if he could give them any profit whilst the work was going on he would, but he would not promise them any profit under twelve months.

Mr. KITTO, in reply to a question, said that in the 46 fm. level the ore varied from 2 to 4 tons per fathom. The new shaft would cost about 2000, for sinking, and would take about 12 months. Mr. ROSS said he believed it could be done in 9 months. Mr. KITTO: If it is it will be good work; but it will not exceed 12.

On the motion of Mr. BROOKES, a vote of thanks was passed to the CHAIRMAN and directors, and the meeting broke up.

#### WEST WYE VALLEY LEAD MINING COMPANY.

The fourth ordinary general meeting of shareholders was held at the offices of the company, Change-alley, on Wednesday, Mr. G. Ross in the chair.

The CHAIRMAN formally moved that the report of the directors, together with the manager's report, and also the balance-sheet, be received and adopted.

The resolution was seconded, and carried without any discussion.

The CHAIRMAN said that Mr. KITTO was present, and would be happy to furnish information to any shareholder in amplification of the information given in the report.

Mr. W. BROOKES said that as the report of Mr. KITTO was dated Nov. 17, and they were now in December, possibly something might have happened between those two dates which would be of interest to the shareholders.

Mr. KITTO said he did not think it was necessary to make any further remarks, but he should be happy to give any further information which any shareholder might desire. Perhaps there were one or two points on which he might make a remark, and the first was with regard to the sinking of Brookes' shaft. Since the date of his report the sinking of that shaft had been resumed, and it had been got down 6 or 8 ft., and so far the lode had improved in character, and the lode at the time he left home was much more like the lode in the 64. The prospects in the 64 continued improving up to the present time the same as when his report was written. The water from the winze, which had been sunk about 6 fms. below the 52, had not yet been drained, but they were expecting daily to drain the water, and when that was done the sinking of the winze would be resumed. There was nothing else which struck him at present as worthy any further remark, but if any shareholder wished to ask questions he would answer them.

Mr. KITTO, in reply to Mr. DAVEY, said there were many tons of copper accumulated, and the copper in the lode was getting better. The copper was mixed with blende. Now that the price of copper was improving no doubt it would pay for dressing, and would realise better results than were formerly anticipated. Mr. DAVEY: How many tons do you think you have got? Mr. KITTO: About 60 tons I should think. The lode in the 64 was strongly impregnated with copper; the copper would come out in dressing the lead. In most of the lodes there is copper at the shallow level. Mr. DAVEY: What were the levels where you had the best lead in West Wye Valley? Mr. KITTO: In the 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Mr. DAVEY: The best part of the lode was going west when I was there. Is it still so? Mr. KITTO: Yes, we are driving the 64 west now, and getting under the same spot. In the 52 we had a bunch of lead further east than the 40. The part we are now carrying is worth about 1 ton per fathom.

Mr. COOD said that they had sold 80 tons of ore, and asked whether there was any more to be sold? Mr. KITTO: We have sold 15 tons this week.

On the motion of the CHAIRMAN, seconded by Mr. DAVEY, the retiring directors, Mr. Kent and Mr. Bowman, were re-elected. Mr. BOWMAN, in acknowledging the compliment, said the West Wye was a mine in which he had taken a deep interest. They had been passing through a remarkably hard time with regard to mining in every way. Times and the prices of lead had been against them, and they had also met with about 20 fathoms of very hard ground, which was not so congenial for the production of lead ore as it was above; but he was fully persuaded that they were now entering a stratum of ground which would be more productive than anything they had yet met with in the mine. He had studied the formation for many years, and, as like produced like, he was satisfied that West Wye had a more prosperous time before it. The times and other things had been against them, but he hoped the shareholders would take heart again, as he hoped better times were awaiting them. (Hear, hear.)

Mr. KENT also acknowledged his re-election. He said that they had had frightful times, for lead mines more particularly; but he thought they had now well turned the corner, because lead which some time since sold at 7 1/2 lbs. was now worth about 12 1/2 per ton, and that difference in the price of lead made a considerable difference in the returns to shareholders of all lead mines. And not only that, but bad times had closed great numbers of lead mines, which, of course, would be beneficial to those mines which managed to live and pull through the bad times, as there would be less lead on the market; and that not only applied to this country but abroad, because a great many foreign lead mines had been compelled to close. He looked forward to much better times in the market. The CHAIRMAN moved the reappointment of Mr. Killingsworth, who had been appointed to audit the accounts in the place of Mr. Pike, who had died since the last meeting. He said that as economy was the order of the day, and as the remuneration of the directors, officers, and miners had been reduced, he was sorry to say they must also reduce the salary of the auditor.

Mr. DAVEY seconded the resolution, which was put and carried.

The CHAIRMAN said there was one point which he had omitted to refer to. Representations had been made on the part of individual shareholders that the question of directors' fees should receive some further consideration at the hands of the board. Before that representation was made the directors had decided to make a further reduction in their fees, which would be less in the current year than last. At the same time, he would take this opportunity of protesting most strongly against the assumption that directors should be unpaid officers of a company. Unpaid services were at no time of much value, and, as he flattered himself that the services of the directors of this company were of some value, he thought they were entitled to receive some remuneration. He hoped that at the next meeting the board would be able to present a better report, and that the discoveries in the mine and the improved price of lead in the market would place the company in a more favourable position.

The meeting then broke up.

GENERAL MINING ASSOCIATION.—A meeting of shareholders was held at the Cannon-street Hotel, yesterday. Colonel Scovell in the chair. It was stated that the operations of the past season have been uneventful, as far as the company's trade is concerned, and according to the latest advices the tide of reviving commercial prosperity does not yet seem to have reached Cape Breton, where the company's operations are carried on. Since the last meeting the arrangement, then under negotiation, for working conjointly with the Spring Hill Company has been concluded, and the directors anticipate beneficial

results from the arrangement. A detailed report of the proceedings will appear in next week's Journal.

#### SOUTH FRANCES MINING COMPANY.

At the four-monthly meeting, on Tuesday (Mr. S. ABBOTT, purser, in the chair), the accounts showed a profit on the sixteen weeks' working of 39647. 12s. 9d., and a total available balance of undivided profit of 62897, out of which a dividend of 33757. (15s. per share) was declared. The CHAIRMAN stated that at their last meeting the average price which they obtained for their tin was about 35s. 15s., while at the present time it was something over 47s., giving them an increase in the average price of more than 11s. per ton. Capt. JAMES, in reply to a question, said that the produce of the tin was 13 1/2 wet or 12 1/2 net, 1 1/2 always being deducted. They had at least half a mile to drive westward, but at the place where they were reported to have encroached they had only about 3 fms. further to go. The CHAIRMAN observed that their last parcel of tin realised 537. 15s. per ton. If this price was maintained until the next meeting, and they returned the same quantity of tin as now, it would make a difference to their credits of about 10000.

—Capt. JAMES detailed the work which he considered necessary to be done. Mr. BRAY said he quite agreed that the work to which Captain James had referred should be carried out, but even after all that was done they would have a balance of over 20000. In hand, and he saw no reason whatever why a dividend of 15s. per share should be paid. He, therefore, proposed that they should have a dividend of 15s. per share. Mr. HUTCHINSON, in seconding the motion, remarked that during the past two years they had been going on exactly as they were now, not only paying a good dividend, but carrying forward a substantial balance for the purpose of meeting the outlay that had to be made. Capt. James had developed the mine in a most masterly manner, and he was quite sure that this could be done without in any way curtailing their dividend, especially seeing that in the coming 16 weeks they were likely to have a better average price for tin than had prevailed up to this time. The resolution was carried *nem. con.*, and 29147. carried forward to credit of next account.

Captain James said it was gratifying to know that in the last 16 weeks they had made a profit in round numbers of 40000. At the same time, considering the amount of work which they yet had to carry out, he would personally have preferred that they had been content with a smaller dividend that day. He should like to lay out the mine in such a way as to reflect credit not only on the agents, but on the district at large. Without particularising an individual mine, he should like to say that mining generally in Cornwall laboured under a disadvantage in consequence of the very bad shafts and bad plant which they possessed, and which they had inherited from their forefathers. (Hear, hear.) But he believed most mine agents were now thoroughly alive to the necessity of an improvement in this respect, so that they might not only be able to compete with but even to surpass the mines in the North of England, where they drew up their thousands of tons of coal a day.

In briefly referring to the remarks of a correspondent of the *Mining Journal* he pointed out that adventurers desired necessary work done, yet divided all the profits earned, and left no funds to do the work with. Adventurers ought to be satisfied with good dividends. Surely a dividend of 10s. per share on a 10s. share was very good indeed. If they looked at the *Mining Journal* they saw writers there who said that this, that, and the other thing ought not to be done, and that there was something in connection with the mine which ought not to exist. They took that as a handle with which to depreciate the property, and they used it as the most formidable weapon they could find against the mine and the executive. Deprive them of this handle, and they would then be able to show the public what South Frances could do.

Mr. WADDINGTON strongly recommended agents to purchase their own boring machinery, and do the work themselves. Capt. JAMES, in reply, said that he had recently put himself in communication with the representatives of some of the boring machine companies, in order to see at what price they would sink the new shaft, but two of those gentlemen were so wide of the mark as to make it utterly impossible that their contract could be entertained for a single moment. The price which he himself set upon the ground was 25s. per fathom for 50 fms. certain, and he felt sure that it could be done for that money. But the price put upon it by the representative of one of the boring machine companies was no less than 47s., so that the margin was so wide as to render it altogether impossible to accept the contract. The other tenders were also in excess of his estimate, and he mentioned this as verifying what Mr. Waddington had said when he recommended them to take this matter into their own hands and do the work themselves. As soon as they had their engine-house up and the boiler in position he was glad to tell them that they intended taking the matter in their own hands, and to commence to sink the shaft in right good earnest.

#### THE COPPER TRADE.

Messrs. HENRY R. MERTON and Co. (Leadenhall-street, Dec. 1)

Issue the following Statistics of Copper:—

Stocks in Europe:		
Chili ores and regulus, Liverpool and Swansea (equal to fine). Tons	1,032	
Chili bars in Liverpool	25,479	
Chili bars in Swansea	3,929	
Chili ingots in Liverpool	50	
Foreign copper (chiefly Australian) in London	5,190	
Foreign copper	744	
English copper in London	50	
Chili bars and ingots and barilla in Havre	4,323	
Other copper in Havre	150	
Afloat, and chartered from Chili to Europe (advised by mail):		
Ore and regulus (equal to fine)	2,588	
Bars and ingots	9,747	
Afloat from Australia (advised by mail):		
Fine copper	438	
Afloat and chartered from Chili to Europe (advised by cable):		
Fine copper	4,700	
Total	58,420	

Messrs. HENRY ROGERS, SONS, and Co. (London, Dec. 4) write:—The life in copper is of a very feeble character as compared with most others. There has been a large trade doing, and though exports increase in a greater ratio than imports, yet the visible stock whilst it diminishes one month only becomes augmented the next. It is quite certain that no one but the trade itself has any interest in copper at present, and hence the market has to take care of itself very much from day to day, and the transactions recorded are of the most meagre character. Consumers generally have been against any advance. It is pretty well understood, however, that they sold forward all descriptions of finished metal very freely in the early autumn, when the idea was that Chili bar copper might very well go to 50s. Added to this, the demand for manufactured copper to the East has been exceptionally small in the two months, notwithstanding exchange has advanced considerably, and the rupee price also. The continental markets, however, have not responded in the slightest degree to our increased values, and the general result has been that the trade have been obliged to hold far larger stocks of lead than the demand justified. The advance in copper, compared with other articles, is so small that it is insisted after the turn of the new year the various circumstances abovementioned must tend to work a great change in the position of this metal, and not only will consumers be purchasing more freely, but we shall have a far larger export demand, and the public also investing. The present state of matters generally does follow a legitimate demand for iron, and though for the moment copper looks discouraging as an investment, it is quite likely a sharp reaction from the present dull condition of the market may arrive at any moment. We subjoin our usual monthly statistics. The imports of copper into England for the first ten months of the following years were:—1875, 67,267 tons; 1876, 64,915 tons; 1877, 77,348 tons; 1878, 74,320 tons; 1879, 78,816 tons. The exports for the same periods were—1875, 41,048 tons; 1876, 42,777 tons; 1877, 41,462 tons; 1878, 47,300 tons; 1879, 53,938 tons. The position from Dec. 1, 1878, to Dec. 1, 1879, was as follows:—

	Price.	Stock on hand.	Stock, including afloat and chartered.
1878—December 1	£59 0 0	39,008	47,073
1879—January 1	58 0 0	37,890	45,474
February 1	56 0 0	39,538	47,153
March 1	55 0 0	39,452	46,266
April 1	56 0 0	39,752	49,051
May 1	56 0 0	41,624	48,965
June 1	55 0 0	41,269	48,432
July 1	56 0 0	41,677	50,447
August 1	53 10 0	42,355	53,011
September 1	60 0 0	43,229	52,479
October 1	60 0 0	41,095	52,681
November 1	66 0 0	38,716	49,955
December 1	66 10 0	41,115	53,165

And the comparative positions at the same date of the past four years with the present:—

	Price.	Stock.	Stock, including afloat and chartered.
1875—December 1	£81 0 0	20,885	29,222
1876—December 1	78 0 0	25,802	31,223
1877—December 1	63 10 0	30,701	36,861
1878—December 1	59 0 0	39,008	47,073
1879—December 1	66 10 0	41,115	53,165

The charters to Nov. 30, 1879, were 47,300 tons, against 44,050 tons in 1878.

Messrs. RICHARDSON and Co. (Dec. 1) write:—The stocks of copper produce remaining unsold at Swansea on Nov. 1 were—ore, 906 tons; regulus, 1868 tons; copper, 3685 tons. The arrivals since have been—regulus, 589 tons; and copper, 320 tons. The private sales were—regulus, 587 tons; and copper, 76 tons. The present stocks are—Chili, 906 tons; Newfoundland (Betts Cove), 4614; Union, 290; Spanish, 834; Portuguese, 317; British, 194=7145 tons; regulus, 1870 tons; and copper, 3929 tons. These totals represent about 5600 tons fine copper. The course of the market during the past month has been similar to that of the previous month, large transactions in Chili bars having taken place at fluctuating prices, ranging between 64s. and 68s. 10s. per ton. A good trade in English copper has been a favourable feature, the United States having transmitted a good order for select ingot, which created an advance in prices, and it is anticipated that higher prices will be realised for British copper than hitherto have prevailed. The Chili charters have been—Second half of October, 2600 tons fine—2000 tons in bars, and 300 tons in ores and regulus for England, and 300 tons in bars for France. First half of November, 2100 tons fine—1400 tons in bars for England, and 700 tons for the Continent. The advices for the latter part of the month are due to-day. The market for Chili bars lately became quieter, and prices receded to 66s., but it is not steady at 66s. 10s. Private sales have been made of ore at 13s. 13s. 6d. per unit, and precipitates 13s. 3d. to 14s. per unit, according to quality.

Messrs. HARRINGTON, HORAN, and Co. (Liverpool, Nov. 29).—We have to report a very animated copper market since our last report, and over 5000 tons Chili bars changed hands at prices fluctuating from 64s. to 68s. 10s. per

ton. The price subsequently receded to 66s., but the market to-day is steady at 66s. 10s. for good ordinary brands on the spot, and 67s. 10s. per ton for distant arrival parcels. There is a capital business doing in English copper for home consumption and export, and altogether it seems as if the exigencies of the trade would warrant a permanently higher range of prices ruling than those we have been accustomed to for some time past. Chili copper charters for the first half of November were 2100 tons fine, consisting of 1400 tons bars for England, and 700 tons for the Continent. Transactions in furnace material comprise about 500 tons New Quebrada ore at 13s., 160 tons Mexican ore at 13s. 3d. to 13s. 6d. per unit; 244 tons English and 360 tons Spanish precipitate at 13s. 3d. to 14s. per unit; and at the Swansea sale, by tender, 1847 tons ore, average produce 10 1/2 per cent., realised 13s. 3/4d. per unit. The imports of Chili copper during the past fortnight were 2883 tons fine; the delivery during same, 686 tons fine. Arrivals here during the fortnight of West Coast, S. A., produce—Cotopaxi (s.), from Valparaiso, 46 tons ore, 564 tons bars, 250 tons ingots; Lanarkshire, from Valparaiso, 267 tons bars; Craig Nair, from Valparaiso, 95 tons bars; Selim, from Valparaiso, 202 tons bars; Sarah Anderson, from Chancal, 948 tons bars; Georgina, from Valparaiso, 63 tons bars. At Swansea—Arctic, from Carrizal and Caldera, 589 tons regulus, 320 tons bars. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	46	25,479	50	—	—
Swansea	906	1870	3,929	—	—
Total	952	25,479	29,408	50	—

Representing about 30,490 tons fine copper, against 28,193 tons Nov. 15; 23,682 tons Nov. 29, 1878; 17,110 tons Nov. 30, 1877; 14,170 tons Nov. 30, 1876. Stock of copper contained in other foreign ore and Spanish precipitate, 1258 tons fine. Stock of Chili copper in Havre, 4192 tons fine, against 6097 tons Nov. 30, 1878. Stock of Coro Coro barilla in Havre, 175 tons fine, against 3315 tons Nov. 30, 1878. Stock of Chili copper afloat and chartered for to date, 15,800 tons fine, against 14,000 tons Nov. 30, 1878. Stock of foreign copper in London, chiefly Australian, 5384 tons fine, against 6500 tons Nov. 30, 1878.

#### THE TIN TRADE.

Messrs. ERELING and HAVELAAR (Rotterdam, Dec. 1) write:—Our tin market has been very quiet during the past month. With the exception of a few days' activity the demand has been moderate. Considering the very large deliveries during October, this seems but natural. Prices show little or no change from the closing quotations of the preceding month. The Dutch Trading Company's last sale in 1879 took place on Thursday, Nov. 27, when 23,526 slabs Banca were sold at from 56 fl. to 60 1/2 fl., average 56 3/4 fl. No statement to the contrary having been made, we may expect the ensuing sale to take place towards the end of January. The demand for Banca has been limited. From 55 fl. the price advanced to 57 fl., then again receding to 54 fl., from which there was a recovery to 55 fl. After the sale small lots changed hands at 56 1/2 fl., and, with much offering, the price has since declined to 55 fl., the market closing steady. A small business has been done in Billiton at the prices ruling for Banca. Holders of this description have been very difficult to deal with, and the greater part of our stock is withheld from the market. Our present quotation is 56 fl. On Dec. 8 a public sale comprising 13,000 peculs Billiton will take place at Batavia. The position of Banca tin in Holland on Nov. 29, according to the official Returns of the Dutch Trading Company, was—

	1879.	1878.	1877.
Import in November	11,408	2,298	8,985
Total eleven months	147,055	112,777	128,663
Deliveries in November	7,600	10,869	6,422
Total eleven months	126,108	109,759	119,795
Stock second hand	58,024	54,517	49,417
Unsold Stock	33,341	14,065	13,322
Total stock	91,367	68,582	62,739
Afloat	4,800	18,700	5,175
Statement of Billiton:—			
Import in November	4,400	7,922	6,564
Total eleven months	116,348	100,945	91,700
Deliveries in November	6,418	10,869	6,422
Total eleven months	108,158	89,838	81,258
Stock	64,802	50,617	41,061
Afloat	6,000	15,000	14,000
Quotation, Nov. 29—Banca	56 fl.	39 fl.	41 fl.
Billiton	56 fl.	38 fl.	40 fl.

These combined returns of Banca and Billiton for 1879, compared with those for 1878, exhibit—An increase of the import for November of 175 tons; an increase of the import for the 11 months of 1553 tons; a decrease of the deliveries for November of 201 tons; an increase of the deliveries for the 11 months of 1083 tons; an increase of the stock second hand of 553 tons; an increase of the unsold stock of 602 tons; an increase of the total stock of 1155 tons; an advance of the quotation of Banca of 28 1/2 fl. per ton.

The Government Returns for the month of September are as follows:—

EXPORT OF TIN FROM HOLLAND.				For nine months.		
	For September.			1879.	1878.	1877.
To	Tons	1879.	1878.	1877.	1879.	1878.
Germany .....	275	194	272	2327	2521	2490
England .....	1	—	11	447	121	312
Belgium .....	171	94	135	1074	1099	1293
France .....	85	15	41	379	301	510
Hamburg .....	53	48	59	311	484	381
The United States ..	22	22	18	348	—	73
Other countries .....	61	82	74	223	429	426
Total .....	673	431	608	5109	4965	5465

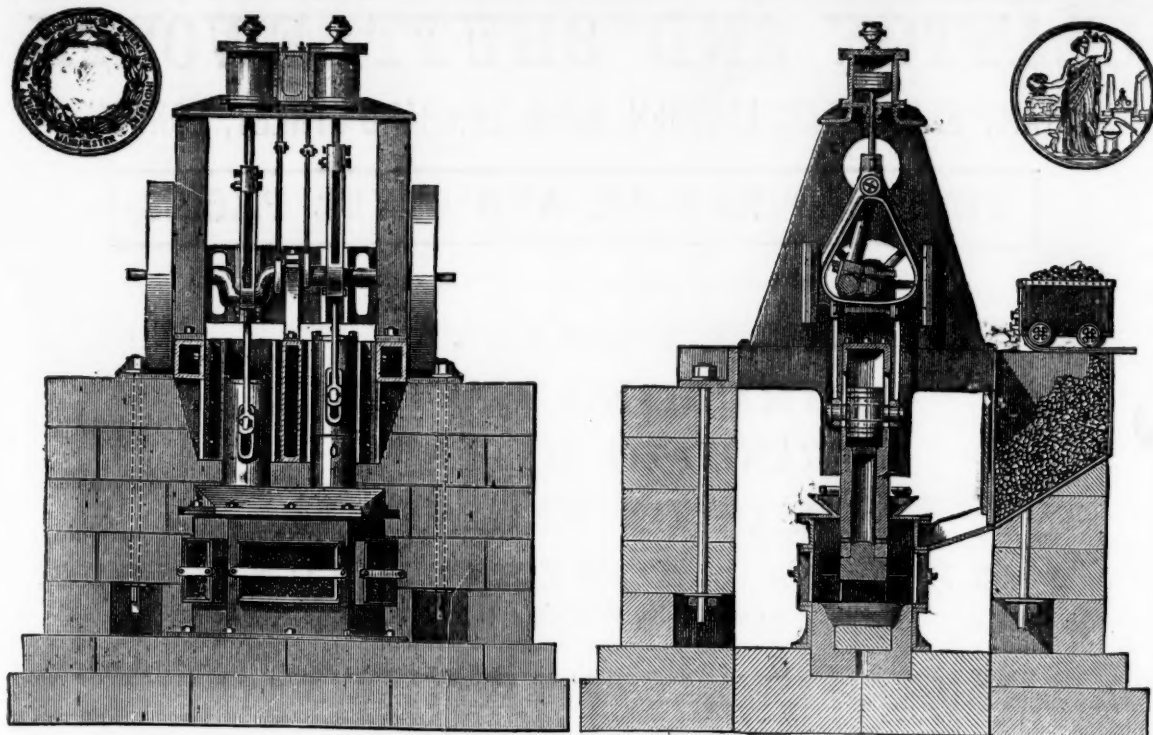
Messrs. STRAUSS and Co. (London, Nov. 29) issue the following

Statistics of tin:—

	Nov. 29, 1879.	Nov. 30, 1878.	Nov. 30, 1877.
Straits and Australian, spot	7,997	8,845	8,508
" " landing	454	582	229
Straits, afloat	375	690	685
Australian afloat	1,737	1,333	1,772
Banca, on warrants	1,819	1,704	1,544
Billiton, spot	2,025	1,582	1,283
" afloat	480	730	1,100
Australian tin in Holland	200	386	577
Total	15,087	15,852	15,698

Total .....	15,087 .....	15,852 .....	15,698 .....
Prices of Straits .....	£93 0 .....	£84 10 .....	£87 0 .....
Deliveries during month in London...	1,080 .....	975 .....	1,016 .....
" " " Holland...	402 .....	620 .....	391 .....
Total .....	1,482 .....	1,595 .....	1,407 .....





## SHOLL'S PATENT DIRECT-ACTING PNEUMATIC STAMPERS,

For Pulverising Tin and Lead Ores, Gold Quartz, &c.,  
SOLE MAKERS FOR CORNWALL,

**N. HOLMAN AND SONS,**

**ST. JUST FOUNDRY, NEAR PENZANCE, CORNWALL.**

ROTARY STAMPERS SUPPLIED ON THE SAME PRINCIPLE, ALSO WITHOUT STUFFING BOXES OR GLANDS, WHERE RUNNING GEAR EXISTS, OR WITH HORIZONTAL CONDENSING ENGINES AND BELTS TO DRIVE THEM, IF PREFERRED.

Also, **SOLE MAKERS OF STEPHENS' PATENT PULVERISER.**  
**MINING AND OTHER MACHINERY CONSTANTLY ON SALE,**  
NEW AND SECOND-HAND.

## JOSEPH FIRTH AND SONS' NEW PATENT BRICK-MAKING MACHINE

EMBRACES THE FOLLOWING ADVANTAGES, VIZ.:-

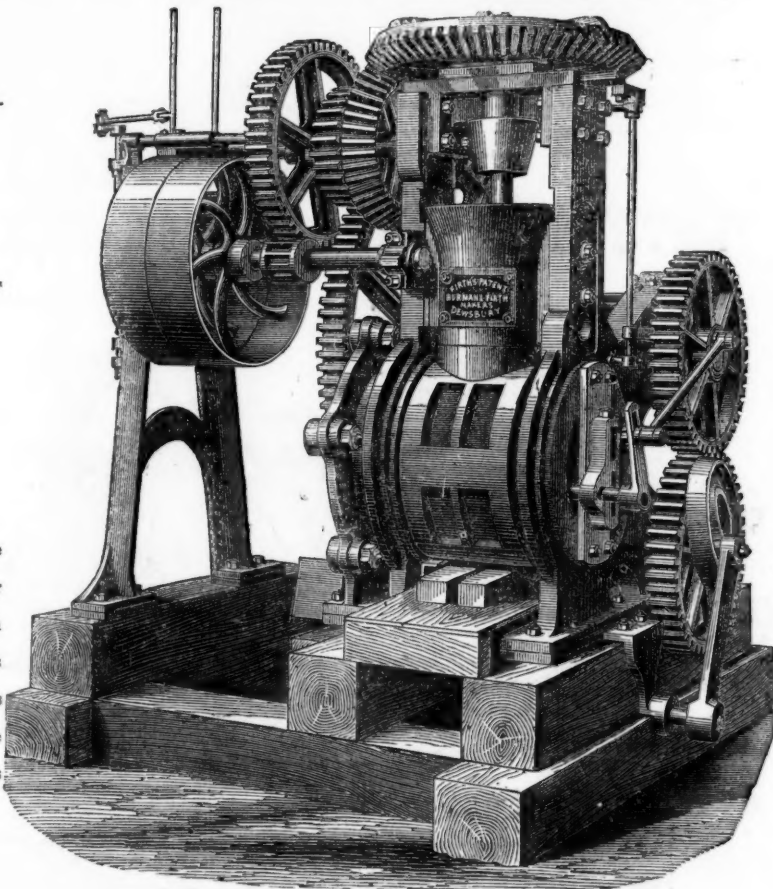
SIMPLICITY, STRENGTH, AND  
DURABILITY.

COMPACTNESS AND EXCELLENCE OF  
MECHANICAL ARRANGEMENTS.

LARGE PRODUCING CAPABILITIES.

MODERATE COST.

It makes two bricks at once, and will make 12,000 to 14,000 Plastic Pressed Bricks per day, hard enough to go direct to the Kiln without drying; or it will make the bricks thoroughly plastic if required. For Works requiring a Machine at less cost the Machine is made to turn out one brick at once, and is capable of producing 8000 bricks per day.



The Machine can be seen at work daily at the Brickworks of the Patentees, Joseph Firth and Sons, Webster Hill, Dewsbury, as also their Patent Gas Kiln for Burning Bricks, which possesses the following amongst other advantages, viz.:- Economy in Fuel, Rapidity and Quality of Work, even Distribution of Heat, and Total Consumption of Smoke.

## WILLIAM EDWARDS AND SON,

Griffin Works, Wolverhampton,

MANUFACTURERS OF

Edge Tools, Spades and Shovels. Hand, Sledge, Stone Quarry, and Mining Hammers, Railway Contractors' and Mining Tools. Axes, Adzes, Pickaxes, Crow and Boring Bars, Wrought-iron Wheelbarrows.

The Original and Only Manufacturers of Best Crown Quality of Horse Shoes

PATENTEES and MANUFACTURERS of PATENT PUNCHED EYE PICKAXES, HOES, HAMMERS, ADZES, and other TOOLS.  
Under Patent No 4698.

## FRANCIS AND JENKINS,

GREENFIELD WORKS,

LLANELLY, S. WALES,

MANUFACTURERS OF THE

Improved Solid Steel Shovels, C. S. Forks, Solid Steel Miners' Shovels, Railway and Miners' Picks, Steel-pointed Spades and Shovels, Draining and Grafting Tools, &c.

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To which special attention is given.

RABBLE HEADS, PADDLES, AND EVERY DESCRIPTION OF LIGHT HAMMERED WORK.



PARIS, 1867.  
BRONZE MEDAL, 1867.



ORDER OF THE CROWN OF PRUSSIA.



FALMOUTH, 1867.  
SILVER MEDAL, 1867.

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

## THE MCKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24'90, 27'60, 24'80, 26'10, 28'30, 27'10, 28'40, 28'70 metres. Total advance of south heading during January was 121'30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere ( $7\frac{1}{2}$  lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUNNEL; and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them a value unapproached by any other system of Boring Machine.

THE MCKEAN ROCK DRILL IS ATTAINING GENERAL USE THROUGHOUT THE WORLD FOR MINING, TUNNELLING, QUARRYING, AND SUB-MARINE BORING.

The MCKEAN ROCK DRILLS are the most powerful—the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts—have no weak parts—act without SHOCK upon any of the operating parts—work with a lower pressure than any other Rock Drill—may be worked at a higher pressure than any other—may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE—do not require a mechanic to work them—are the smallest, shortest, and lightest of all machines—will give the longest feed without change of tool—work with long or short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against grit and accidents. The various methods of mounting them are the most efficient.

N.B.—Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

PORTABLE BOILERS, AIR COMPRESSORS, BORING STEEL, IRON, AND FLEXIBLE TUBING.

The McKean Drill may be seen in operation daily in London.

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ENGINEERS

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THE COLLIERY READY-RECKONER AND WAGES CALCULATOR.

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"Will be the means of preventing many disputes between pay clerks and colliers."—Mining Journal.

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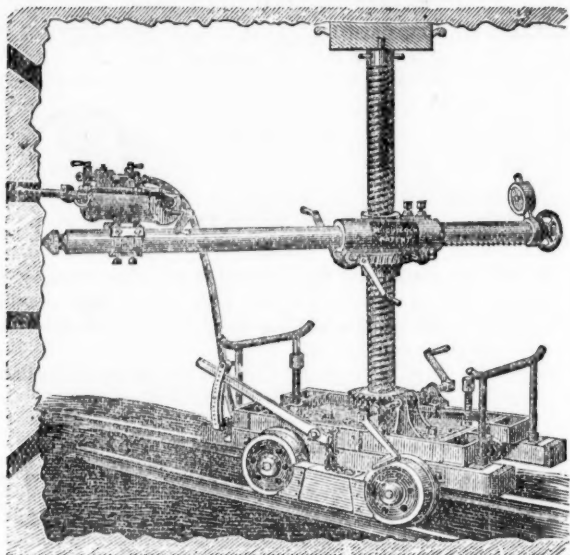
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**PATENT TRUNK AIR COMPRESSOR,**  
 WINDING AND PUMPING ENGINES. VENTILATING AND BLOWING FANS.  
 TURBINE WATER-WHEELS.



**SOLE MAKERS OF MC CULLOCH'S  
 PATENT ROCK DRILL CARRIAGE.**

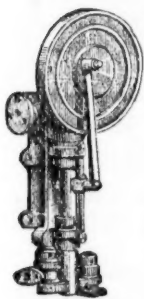
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 ENDLESS CHAIN ELEVATORS, AND FEED SHEETS.  
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**Air Compressors.  
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FOR COLLIERIES, IRONWORKS, &c.

SUITABLE FOR PIT BANKS, ENGINE HOUSES, &c., &c.



Each Lamp gives a light equal to  
 26 candles.  
 No Breakage of Chimneys from  
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 Cottons last three months.  
 Will burn any Mineral Oil.

**S. HOOPER,**  
 LAMP MAKER & OIL MERCHANT  
 LOWER TEMPLE STREET,  
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N.B.—Lamps made suitable for every  
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 STAMP END WORKS, LINCOLN, & 78, LOMBARD STREET, LONDON.

**TWO GOLD MEDALS, AND OTHER PRIZES,**

Have been awarded to CLAYTON AND SHUTTLEWORTH for their

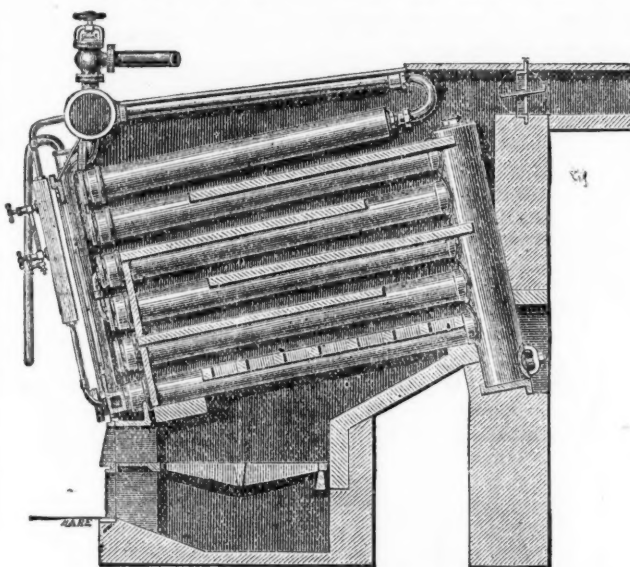
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**AT THE PARIS EXHIBITION, 1878.**

CATALOGUES FREE ON APPLICATION.

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THE BARROW SHIPBUILDING COMPANY beg to call the particular attention of Steam Users to the great advantages to be obtained by adopting their Improved Sectional Boilers. After the most careful experiments extending over some years, and having worked these Boilers in their own workshops under the most varying conditions, and subject to the most crucial tests, they have every confidence in recommending them to the public.

The Boilers are constructed of the very best material, combined with the most careful workmanship, every Boiler being tested to 300 lbs. per square inch, and made absolutely tight and perfect before leaving the company's works.

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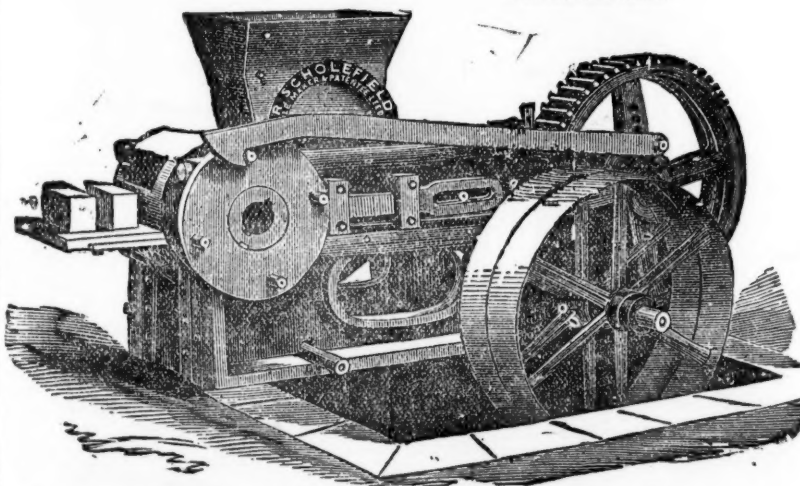
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 LATEST PATENT BRICK-MAKING MACHINE.**

PATENTED 1873.



R. S. begs to call the attention of all Colliery Owners in particular to his PATENT SEMI-DRY BRICK MACHINE, and the economical method of making bricks by his patent machinery from the refuse that is taken from the pits during the process of coal-getting, which instead of storing at the pit's mouth (and making acres of valuable land useless) is at once made into bricks at a very small cost, by R. S.'s Patent Brick-making Machinery. If the material is got from the pit hill, the following is about the cost of

production, and the hands required to make 10,000 pressed bricks per day:—

2 men digging, each 4s. per day	...	20 8 0
1 man grinding, 4s. 6d. per day	...	0 4 6
1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	...	0 2 0
1 boy greasing, 1s. 6d. per day	...	0 1 6
1 engine-man, 5s. per day	...	0 5 0
1 man wheeling bricks from machine to kiln, 4s. per day	...	0 4 0

Total cost of making 10,000 pressed bricks ... .. £1 5 0, or 2s. 6d. per 1000.

(SETTING AND BURNING SAME PRICE AS HAND-MADE BRICKS.)

N.B.—Where the material can be used as it comes from the pit, the cost will be reduced in digging.

As the above Machinery is particularly adapted for the using up of shale, bind, &c., it will be to the advantage of all Colliery Owners to adopt the use of the said Brick-making Machinery.

THE MACHINES CAN BE SEEN IN OPERATION AT THE WORKS OF THE SOLE MAKER AND PATENTEE DAILY.

**SCHOLEFIELD'S ENGINEERING & PATENT BRICK MACHINE WORKS.**  
 KIRKSTAL ROAD LEEDS.

**PATENT  
 STEEL TRAMS AND TIPPING TRUCKS.**

STEEL (OR IRON) TRAMS AND TIPPING TRUCKS.  
 Patented in Europe, America, and British South Africa.  
 Lightest and strongest made.

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BLASTING FUSE FOR MINING AND ENGINEERING PURPOSES

Suitable for Wet or Dry Ground, and effective in Tropical or Polar Climates.

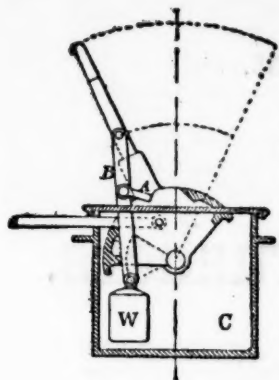
W. BENNETTS, having had many years' experience as Chief Engineer with Messrs. Blackford, Smith, and Co., is now enabled to offer Fuse of every variety of his own manufacture, of best quality, and at moderate prices.

Price Lists and Sample Cards may be had on application at the above address.  
 LONDON OFFICE—H. HUGHES, Esq., 85, GRACECHURCH STREET.



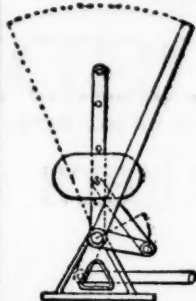
# SWITCHES AND CROSSINGS,

FOR RAILWAYS AND TRAMWAYS, WITH PATENT LEVER BOXES.



**Hartley's Patent Lever Box,**  
REVERSIBLE UNDERGROUND.

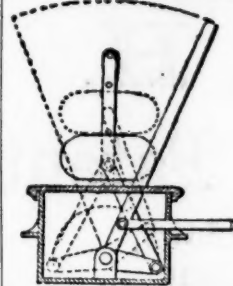
Can be set to work either way; by turning over the catch at A and reversing the lever, the weight W swings over to C, the catch preventing its return until again turned over. The reversing is effected with very little power, as the weight is raised but a few inches in the operation.



**HARTLEY'S PATENT LEVER BOX.**

Specially designed for Colliery Workings, or where economy of space is an object. Is reversible, and can be locked either way, or dead-locked, so as not to work at all.

**Hartley's Patent Locking and Reversible Lever Boxes,**



Will set over both ways, can be locked so as to work on one side only, or the switches can be locked on either side, so as not to work at all. Takes up less room than any other, as the weight does not turn over; works equally well if full of water; can be supplied at the price of an ordinary lever box.

**Tank Locomotives, Siding Stops, Wheels, Rails, Chairs, Spikes. Belts,**

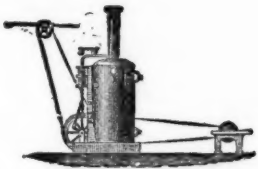
AND EVERY DESCRIPTION OF PERMANENT WAY FITTINGS.

Iron and Steel Pit Cages, Wrought-iron Roofs, Headgears, Girders, Turntables, Patent Coal Tip, Boilers, Engines, Water Cranes.

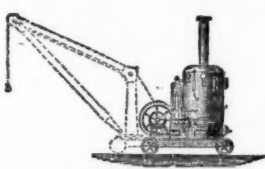
**HARTLEY and ARNOUX BROTHERS, Stoke-upon-Trent.**

## CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

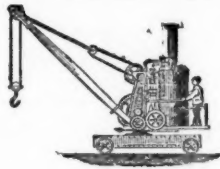
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ALWAYS IN STOCK OR IN PROGRESS.



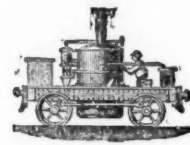
STATIONARY ENGINE.  
From 1 to 30 horse-power.  
No building required.



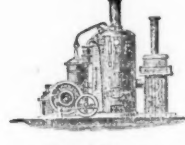
PORTABLE HOIST.  
1 to 30 horse-power.  
With or without Jib.



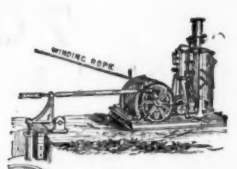
STEAM CRANE.\*  
15 cwt. to 20 tons.  
For Wharf or Rail.



CONTRACTORS' LOCOMOTIVE.  
9 to 27 horse-power.  
For Steep Inclines and Quick Curves.



SHIPS' ENGINE.  
For Winding, Cooking, and Distilling.  
Sanctioned by H.M. Government.



PUMPING AND WINDING ENGINE.  
6 to 30 horse-power.

\* These cranes were selected by H.M. Commissioners to receive and send away the heavy machinery in the International Exhibitions 1862, 1871, and 1872.

Chaplin's Patent Improved Steam Excavator or "Navy."

Steam and Hand Derrick and Overhead Travelling Cranes.

Engines and Boilers for Light Screw and Paddle Steamers.  
Steam Cargo Barges, Steam Launches, and Yachts.

PATENTEES AND SOLE MANUFACTURERS:

**ALEX. CHAPLIN AND CO., CRANSTONHILL ENGINE WORKS, GLASGOW.**

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ENGINES OF EACH CLASS KEPT IN STOCK, AND ALL OUR MANUFACTURES GUARANTEED AS TO EFFICIENCY, MATERIAL, AND WORKMANSHIP.  
Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.

# MAY AND MOUNTAIN,

BIRMINGHAM,

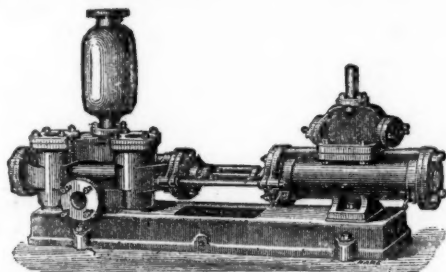
Engineers, Millwrights, Ironfounders, Coppersmiths, and Boiler Makers.

SOLE MANUFACTURERS OF

IMPROVED VERTICAL COLEBROOK'S PATENT STEAM PUMP. TORKINGTON AND HEY'S

DOUBLE-ACTING  
STEAM PUMPS,

MADE IN ALL SIZES AND  
COMBINATIONS.



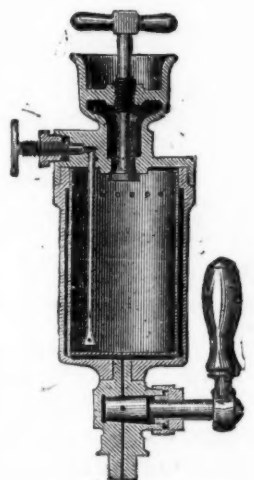
Reliable and Economical—Short Pistons and Long Strokes—Slide Valve worked by Steam alone, without Tappets, Levers, or Valves.

Adapted for all purposes and to all circumstances.

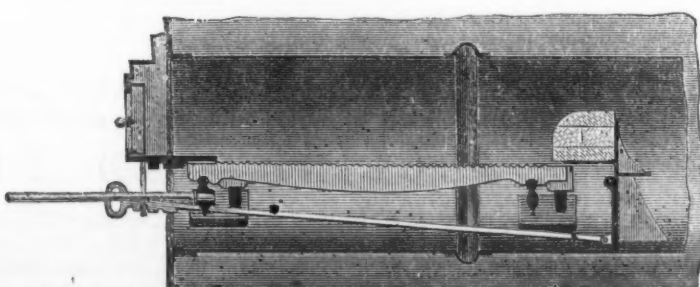
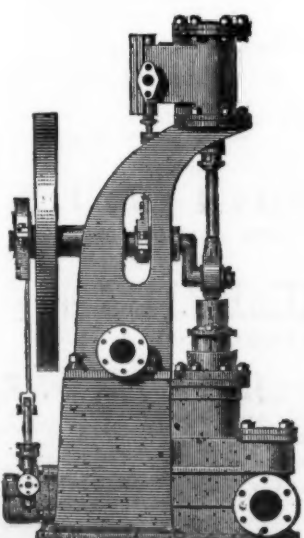
**TORKINGTON & HEY'S  
PATENT LUBRICATORS,**

Entirely Self-acting. Flow of Grease regulated  
by the Steam. Perfect Lubrication.  
Greatest possible Economy.

PATENT.



PRICES ON APPLICATION.



IMPROVED SMOKE PREVENTING FIRE BARS.

PRICES OF A FEW LEADING SIZES.

Steam cylinder.	Water cylinder.	Stroke.	Gallons per hour.	Price.
3	1 1/2	12	720	£16
4	2	18	1,260	19
4	4	18	5,040	25
6	4	18	4,280	33
6	6	18	9,660	41
8	6	18	7,920	50
10	8	18	12,060	80

TO SUIT ANY  
FLUE  
OR  
FURNACE.  
—  
PRICES  
ON  
APPLICATION.

PRICES OF LUBRICATORS.

No.	Horse-power.	Price.
1	Agricultural	7s. 6d.
2	Engines...	10 0
3	5 to 7	20 0
4	7 10	25 0
5	10 20	30 0
6	20 30	37 6
7	30 50	47 6
8	50 70	60 0
9	70 100	85 0
10	100 200	110 0



SMITHFIELD SHOW, Islington, Dec. 8 to 12, Stand 172 in the Gallery—H. R. Marsden will Exhibit in Operation his PATENT BONE MILL, &c. Complete Catalogues and all Particulars on application at the Stand.

Stones broken equal, and Ores better, than by hand, at one-tenth the cost.

## H. R. MARSDEN,

ORIGINAL PATENTEE AND SOLE MAKER OF BLAKE'S

### Improved Patent Stone Breakers & Ore Crushers.

New Patent Reversible Jaws,  
in Sections, with Patent  
Faced Backs.

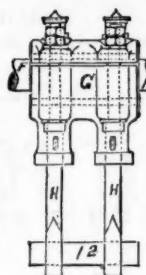
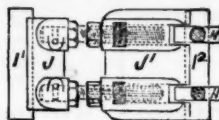
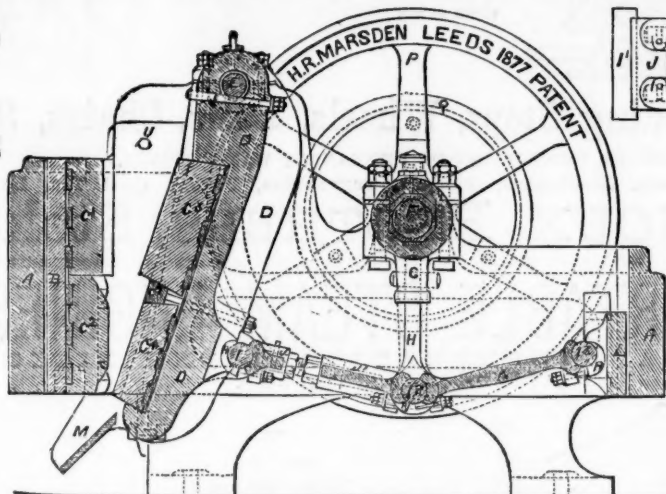
NEW PATENT ADJUSTABLE  
TOGGLES.  
OVER 2500 IN USE.

New Patent Draw-back  
Motion.

NEW PATENT STEEL TOGGLE BEARINGS.

70

PRIZE MEDALS.



#### READ THIS—

Wharhole Lime Works, Maryport, Whitehaven,  
November 7, 1878.  
H. R. MARSDEN, Esq., Soho Foundry, Meadow-lane, Leeds.  
DEAR SIR,—The machine I have in use is one of the large  
size, 24 in. by 12 in. The quantity we are breaking daily with  
this one machine is 250 tons, the jaw being set to break to a  
size of 2½ in. We have, however, frequently broken over  
300 tons per day of ten hours, and on several occasions over  
500 tons during the same period. The stone we break is the  
blue mountain limestone, and is used as a flux in the various  
ironworks in this district. We have now had this machine in  
daily use for over two years without repairs of any kind, and  
have never had occasion to complain of any inconvenience in  
using the machine. I hope the one you are now making for  
me may do its work equally well. The cost—INCLUDING EN-  
GINE-POWER, COALS, ENGINEMAN, FEEDING, and all EXPENSES  
OF EVERY KIND—is just 3d. per ton. Should any of your  
friends feel desirous of seeing one of your machines at work,  
I shall have much pleasure in showing the one alluded to.  
I am, dear Sir, yours very truly,  
WILLIAM MILLER.

#### AND THIS—

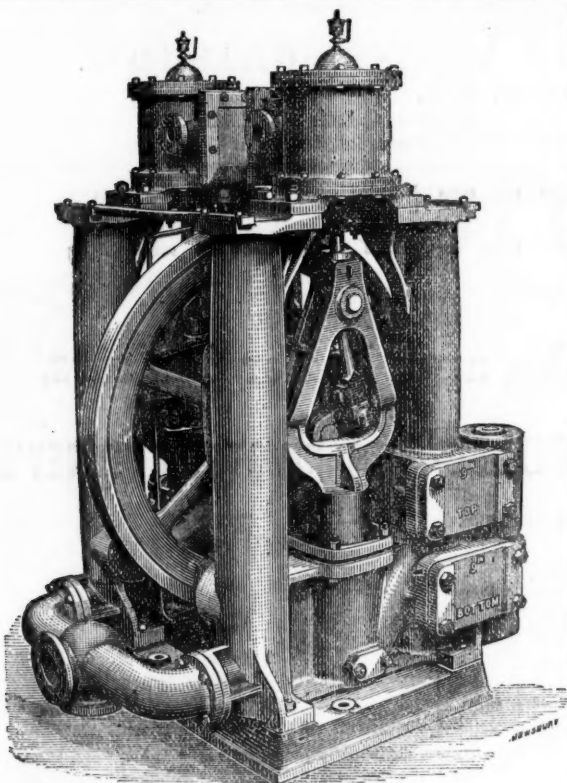
Wharhole Lime Works, Aspatria, Cumberland,  
July 11th, 1878.  
H. R. MARSDEN, Esq., Soho Foundry, Leeds.  
DEAR SIR,—We are in receipt of your letter of 4th inst. I  
may just state that the stone breaker above named has been  
under my personal superintendence since its erection, and I  
have no hesitation in saying that it is as good now as it was  
five years ago.  
I am, dear Sir, yours faithfully,  
FRANCIS GOULD.

GREATLY REDUCED PRICES ON APPLICATION.

ALL BEARINGS are renewable, and made of H.R.M.'s Patent Compound ANTIFRICTION METAL.

CATALOGUES, TESTIMONIALS, &c.

H. R. MARSDEN, SOHO FOUNDRY, LEEDS, ENGLAND.



STEAM PUMPS for COLLIERY PURPOSES, specially adapted  
for Forcing Water any height; also for Sinking; and for Feeding  
Boilers.

JOHN CAMERON has made over SIX THOUSAND.

WORKS: OLDFIELD ROAD, SALFORD, MANCHESTER.

#### ASBESTOS.

ASBESTOS ENGINE PACKING,  
ASBESTOS MILLBOARD JOINTING,  
ASBESTOS BOILER COVERING,  
ASBESTOS CEMENT,  
ARE UNRIVALLED.

Sole Patentees and Manufacturers:

THE PATENT ASBESTOS MANUFACTURE CO. (LIMITED),  
31, ST. VINCENT PLACE, GLASGOW,  
AND 10, MARSDEN STREET, MANCHESTER.  
From whom Price Lists and all information can be had.

THE GREAT ADVERTISING MEDIUM FOR WALES.

THE SOUTH WALES EVENING TELEGRAM  
(DAILY), and  
SOUTH WALES GAZETTE  
(WEEKLY), established 1857.

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Wales. Chief Offices, NEWPORT, Mon.; and at CARDIFF.

The "Evening Telegram" is published Daily, the First Edition at 3 P.M.; the  
Second Edition at 5 P.M. On Friday, the "Telegram" is combined with the  
"South Wales Weekly Gazette," and Advertisements ordered for not less than  
Six Consecutive Insertions will be inserted at an Uniform Charge in both papers.  
P.O.O. and Cheques payable to HENRY RUSSELL EVANS, 14, Commercial-street,  
Newport, Monmouthshire.

THE NEWCASTLE DAILY CHRONICLE  
(ESTABLISHED 1764).  
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER,  
Offices, Westgate-road, Newcastle-upon-Tyne; 59, Howard-street, North  
Shields; 195, High-street, Sunderland.

## THE "CHAMPION" ROCK BORER

MINE AND QUARRY STANDS, STEEL DRILLS, SPECIALLY PREPARED INDIARUBBER HOSE, TESTED  
IRON PIPES, &c.



### Air-Compressing Machinery,

Simple, strong, and giving most excellent results, and  
ELECTRIC BLASTING APPARATUS.

Full particulars of rapid and economical work effected  
by this machinery, on application.

R. H. HARRIS, late

ULLATHORNE AND CO., Mechanical and Consulting Engineers,  
43, QUEEN VICTORIA STREET, LONDON, E.C.

PARIS EXHIBITION,



1878.

HONOURABLE MENTION

Awarded to

SALMON, BARNES, & CO.

FOR THE PATENT

ROANHEAD ROCK DRILL,

AND THE HIGHEST AWARD FOR

IRON AND WOOD REVOLVING SHUTTERS,

Worked by their PATENT BALANCE-WEIGHT MOTION.

Canal Head Foundry and Engineering Works, Ulverston,  
LANCASHIRE.

PARIS EXHIBITION,



1878.

GOLD MEDAL AWARDED, PARIS EXHIBITION 1878.

THOMAS TURTON AND SONS,

MANUFACTURERS OF

MINING STEEL of every description.

CAST STEEL FOR TOOLS. CHISEL SHEAR, BLISTER, & SPRING STEEL  
MINING TOOLS & FILES of superior quality.

EDGE TOOLS, HAMMERS, PICKS, and all kinds of TOOLS for RAILWAYS, ENGINEERS, CONTRACTORS, and PLATELAYERS.  
LOCOMOTIVE ENGINE, RAILWAY CARRIAGE and WAGON SPRINGS and BUFFERS.

SHEAF WORKS & SPRING WORKS, SHEFFIELD.

LONDON OFFICES.—90 CANNON STREET, E.C. PARIS DEPOT—12, RUE DES ARCHIVES.

J. WOOD ASTON AND CO., STOURBRIDGE

(WORKS AND OFFICES ADJOINING CRADLEY STATION),

Manufacturers of

CRANE, INCLINE, AND PIT CHAINS,

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES,  
FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS,  
RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c.

Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions.  
STOURBRIDGE FIRE BRICKS AND CLAY.